

Exhibit 144



Ohio Department of Health
Violence and Injury Prevention Program

Alarming Rise in Unintentional Drug Overdose Deaths in Ohio

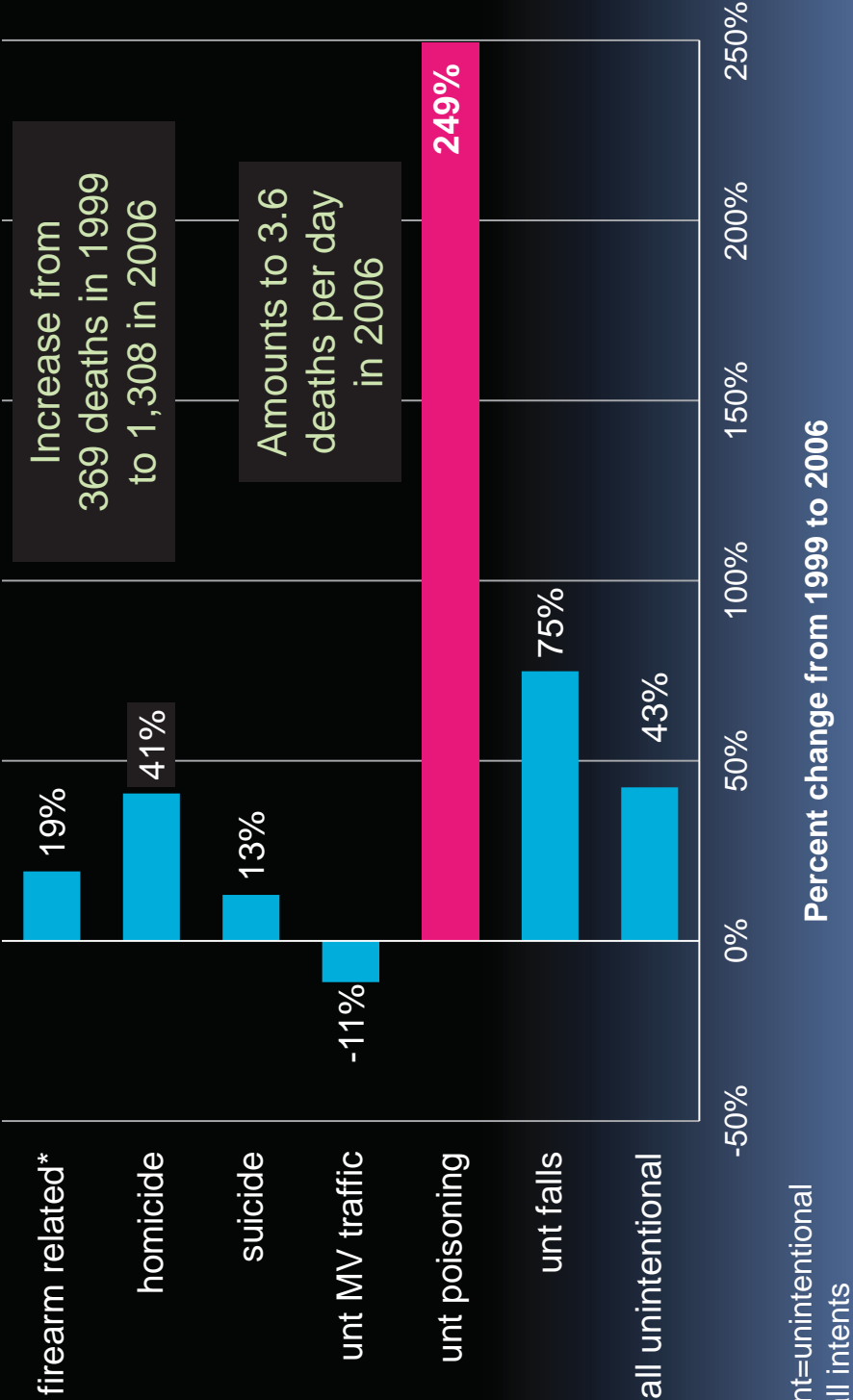


A GROWING PROBLEM: CHANGES OVER TIME IN U.S. & OHIO

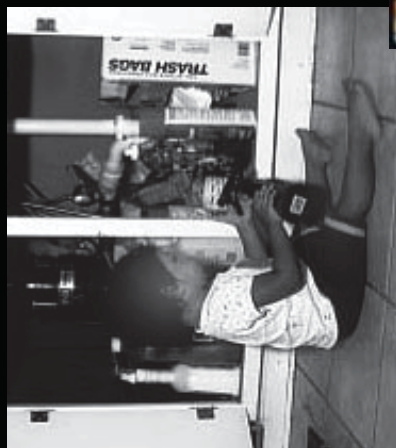


Percentage change in number of annual deaths for leading causes of injury, by mechanism and intent - Ohio, 1999 to 2006¹

¹Source: Ohio Dept of Health, Office of Vital Statistics



Poisoning: The “Traditional” Picture



Childhood Poisonings



DRAFT - for use by OIPP Drug/Medication Poison Action Team

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Poisoning: Burden of Fatal Poisonings



Adolescent and Adult Poisonings

DRAFT - for use by OIPP Drug/Medication Poison Action Team

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What is a Poison?

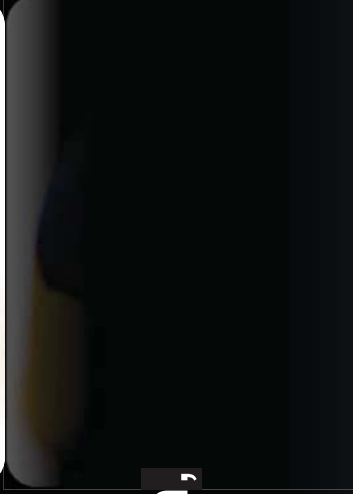
A poison is anything that can harm someone if it is:

(1) used in the wrong way,

(2) used by the wrong person,

or

(3) used in the wrong amount* .



*Source: HRSA, PoisonHelp

DRAFT - for use by OIPP Drug/Medication Poison Action Team

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Overdose = Drug/Medication Poisoning
(result of exposure to poison)

Unintentional = “Accidental” vs.
Intentional (*Suicide or Homicide*)

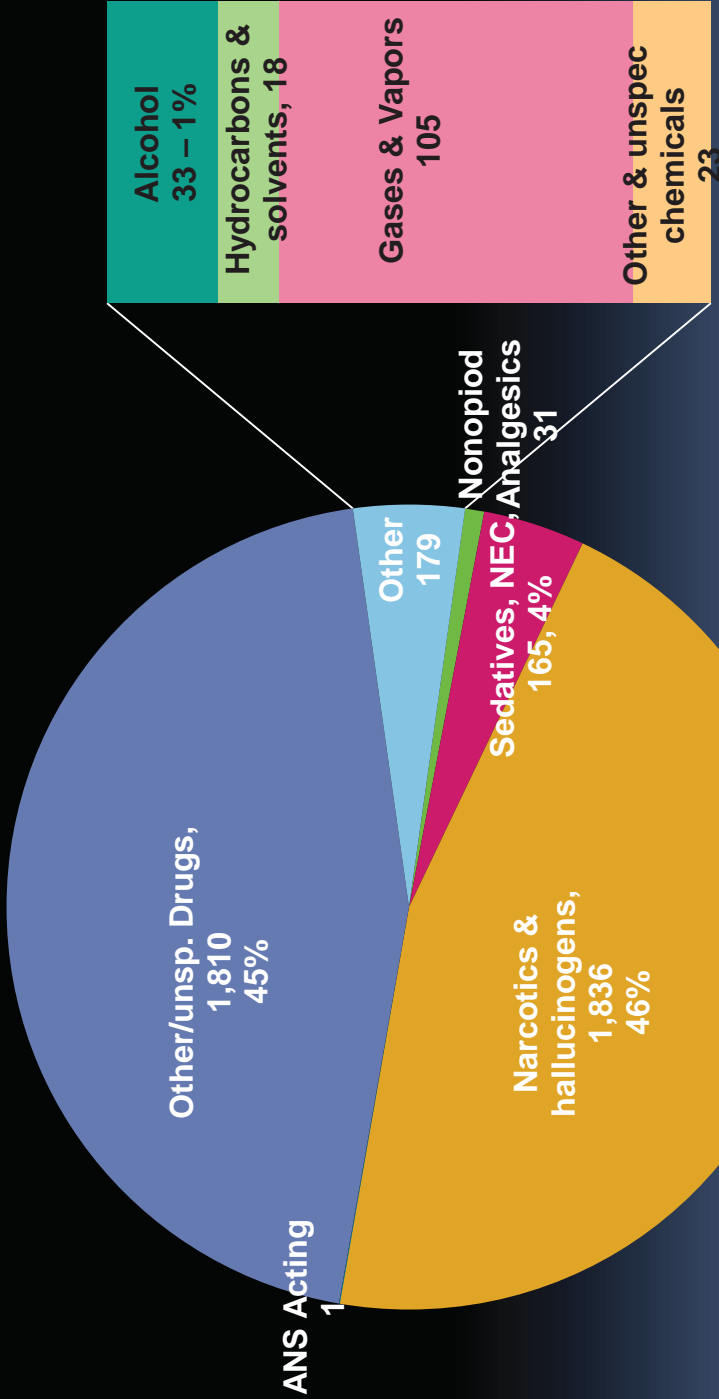


Number of deaths from MV traffic and unintentional poisonings by year, Ohio 1999-2007*



Proportional distribution of unintentional poisoning deaths by type of poison, Ohio 2003-06*

96% of all unintentional poisoning deaths were due to drugs/medications.



*Source: Ohio Dept of Health, Office of Vital Statistics

Number of deaths from MV traffic and unintentional drug poisonings by year, Ohio 2000-2007*

*Source: ODH Office of Vital Statistics

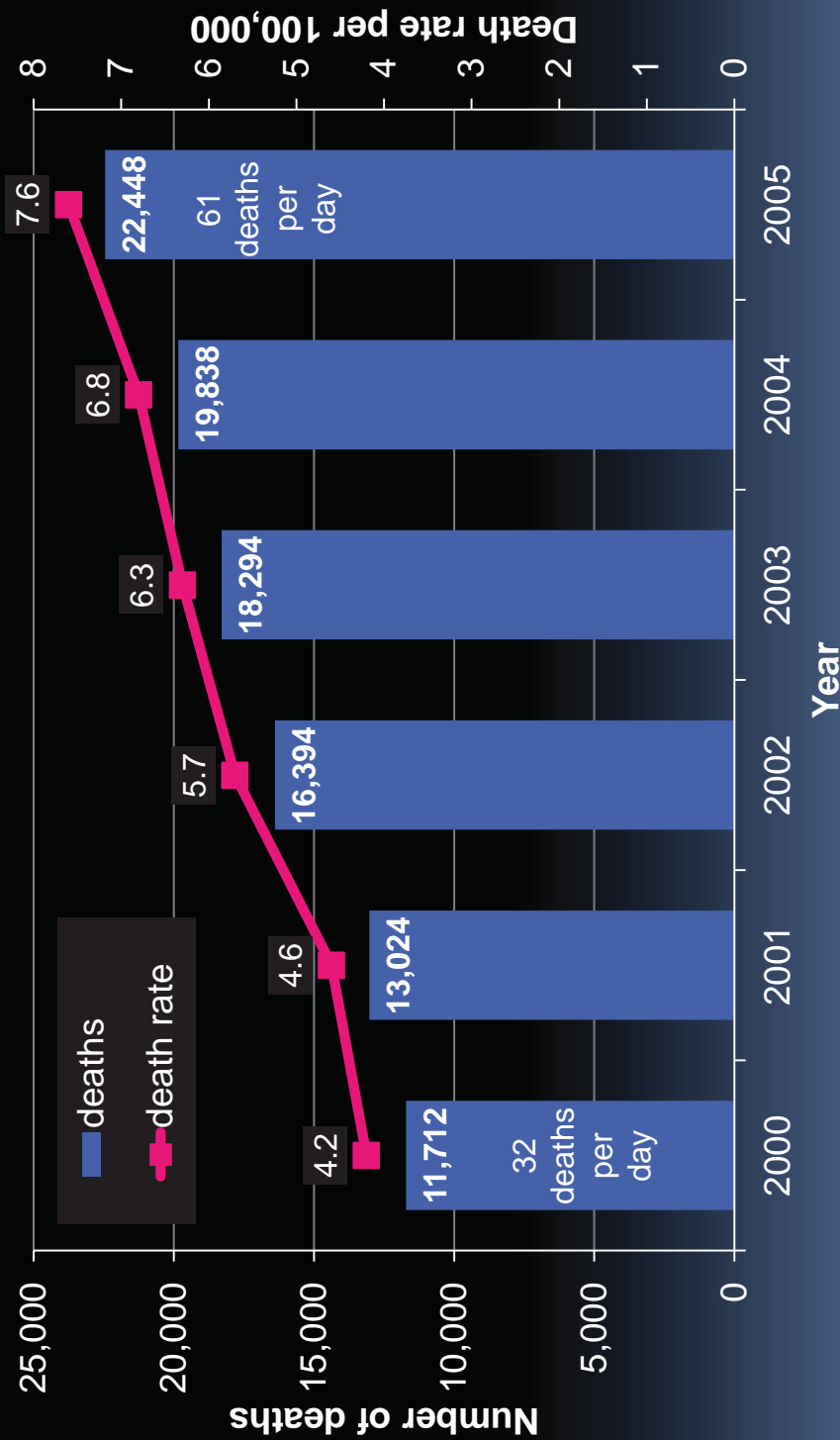


Poison death rates (per 100,000) of Ohio residents by manner, year, 1999-2006*

*Source: WISQARS



US deaths and death rates due to unintentional drug poisoning by year, 2000-05*



*Source: CDC WONDER

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Number of U.S. deaths due to
unintentional drug overdoses
in 2005 exceeds that of
one large jet crash
every day for 2 months,
each killing 350 people

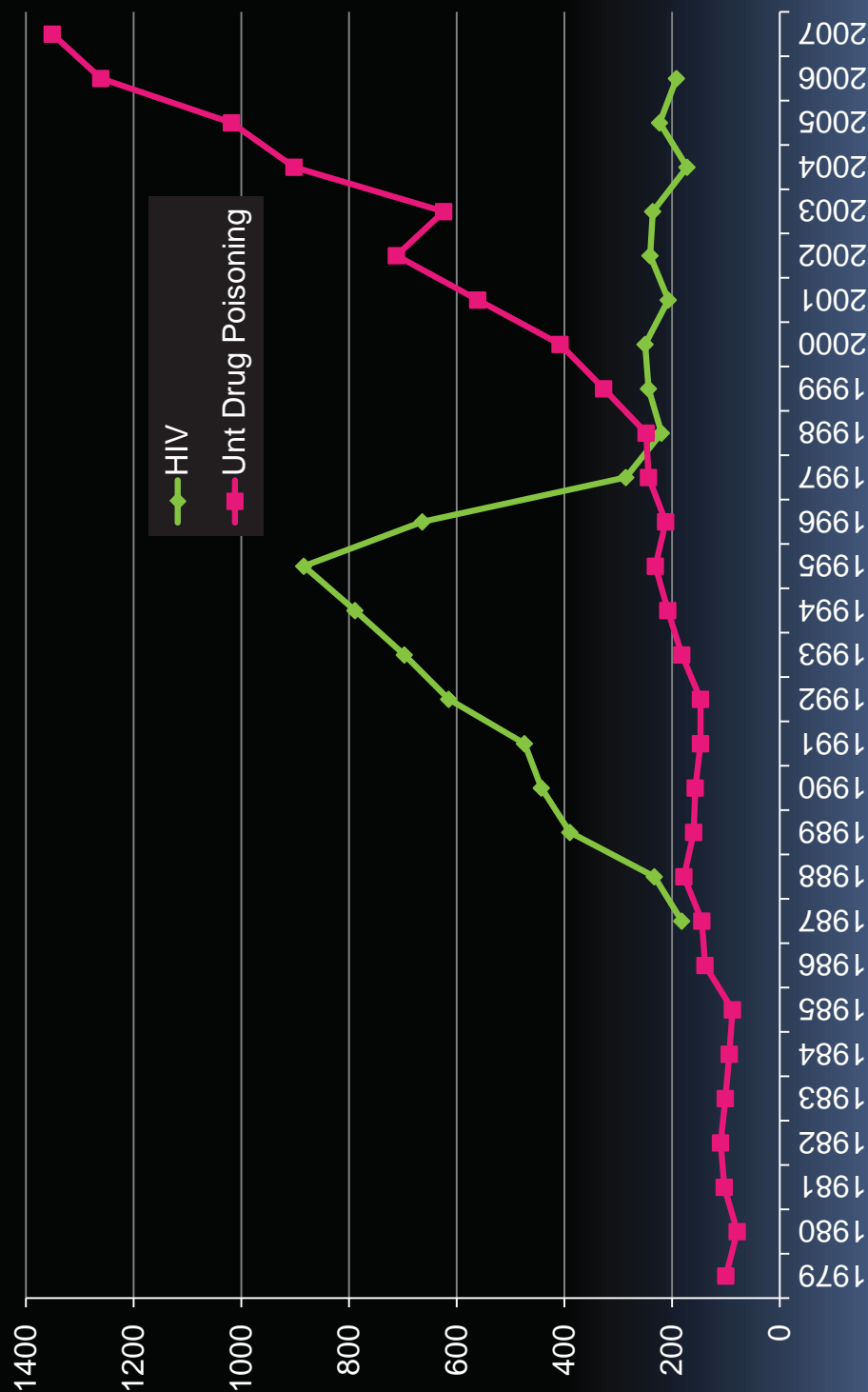


Ohio¹ and US² unintentional drug poisoning death rates per 100,000 population, 1999-2006



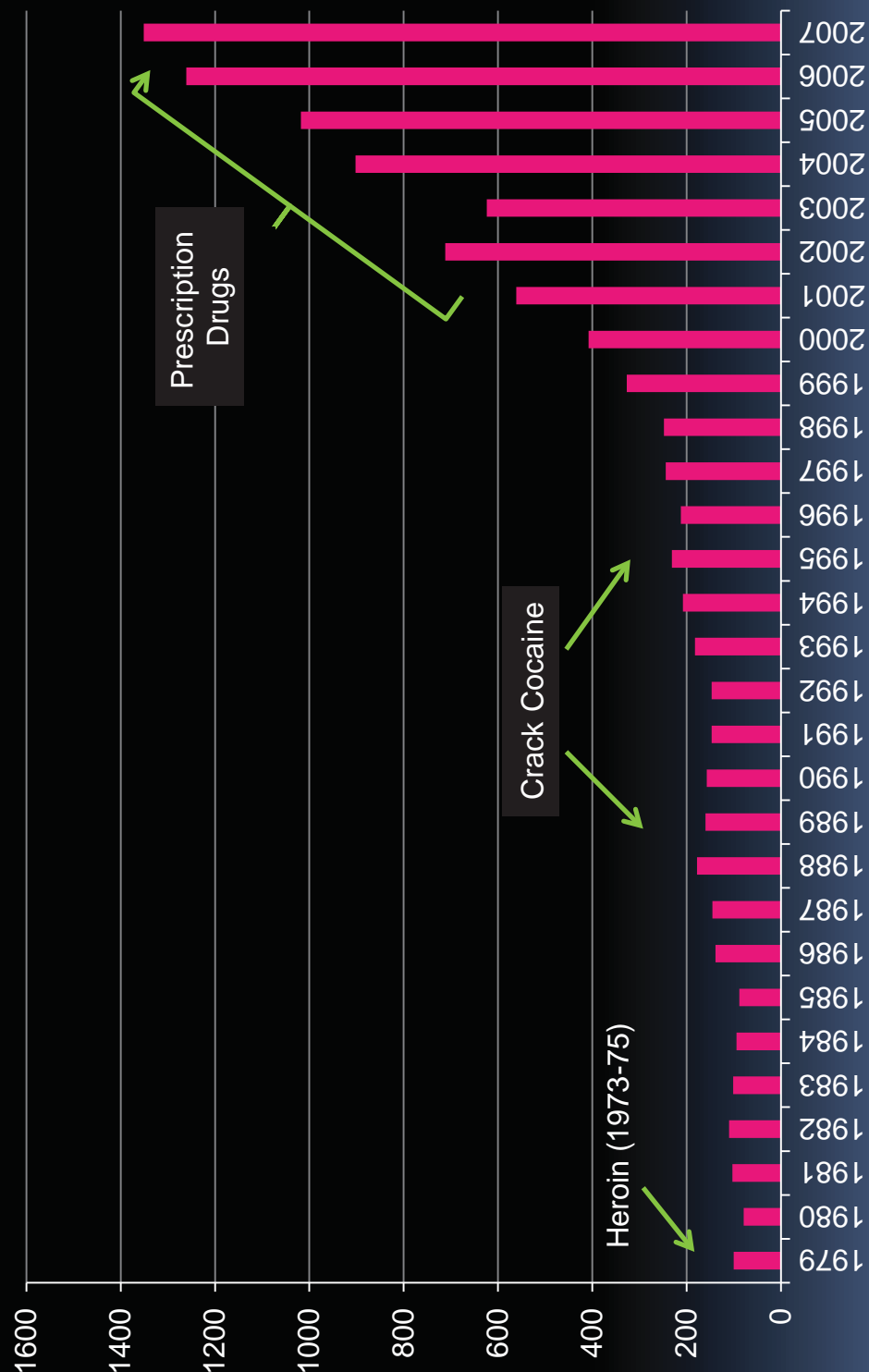
¹Source: ODH Office of Vital Statistics; ²Source: CDC WONDER:

Number of deaths due to HIV/AIDS and unintentional drug poisonings by year, Ohio, 1979-2006 (2007 for poisoning)^{1,2,3}



Source: ¹WONDER (NCHS Compressed Mortality File, 1979-1998 & 1999-2005) ²2006-7 ODH Office of Vital Statistics, ³Change from ICD-9 to ICD-10 coding in 1999 (caution in comparing before and after 1998 and 1999)

Epidemics of unintentional drug overdoses in Ohio, 1979-2006^{1,2,3}



Source: ¹WONDER (NCHS Compressed Mortality File, 1979-1998 & 1999-2005) ²2006 ODH Office of Vital Statistics, ³Change from ICD-9 to ICD-10 coding in 1999 (caution in comparing before and after 1998 and 1999)

US military deaths in Iraq (2003-present)¹ vs. unintentional drug poisoning deaths in Ohio (2003-08)²

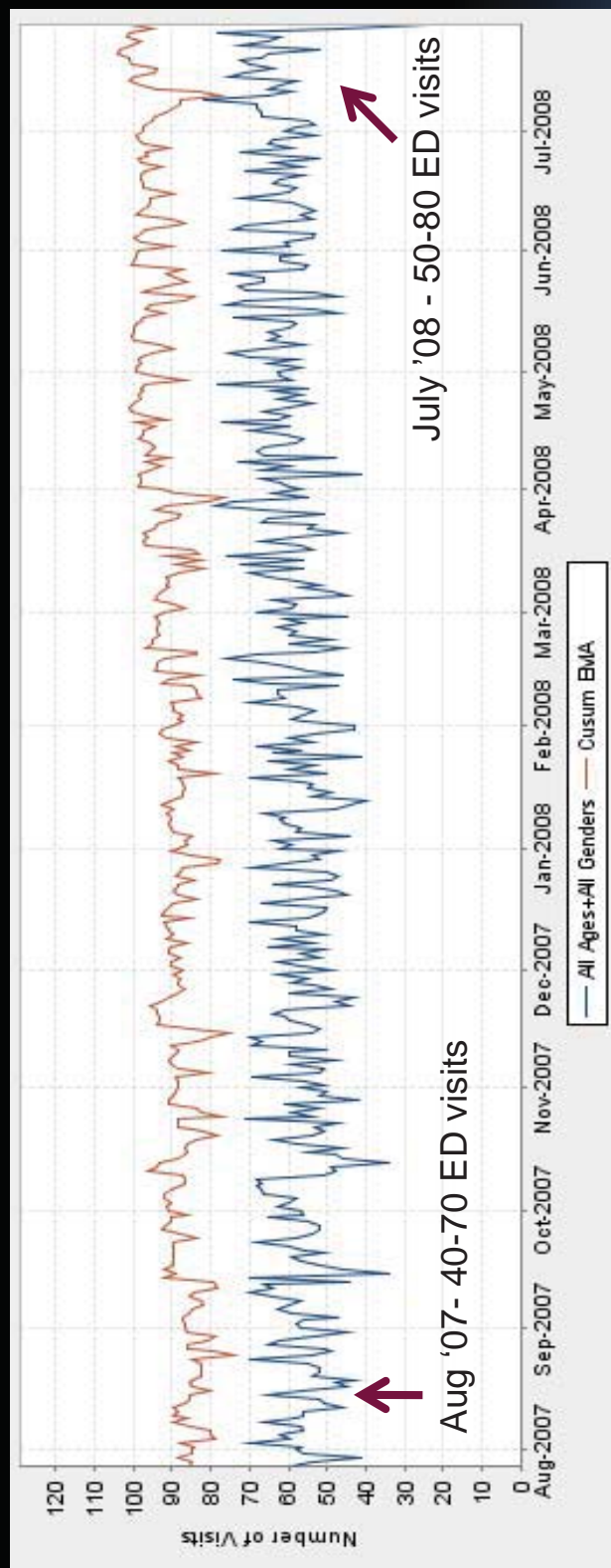
- As of **July 23, 2009**: 4,328 members of the U.S. military had died in the Iraq war since it began in March 2003.
- 6,921 deaths due to unintentional drug/medication poisoning in Ohio.



Sources: ¹Associated Press, accessed 6/25/09

²ODH Office of Vital Statistics; *2008 figures preliminary, numbers may increase

Number of daily Ohio ED visits for “drug overdose” or “symptoms of drug overdose” as chief complaint on admission, August 2007-July 2008*

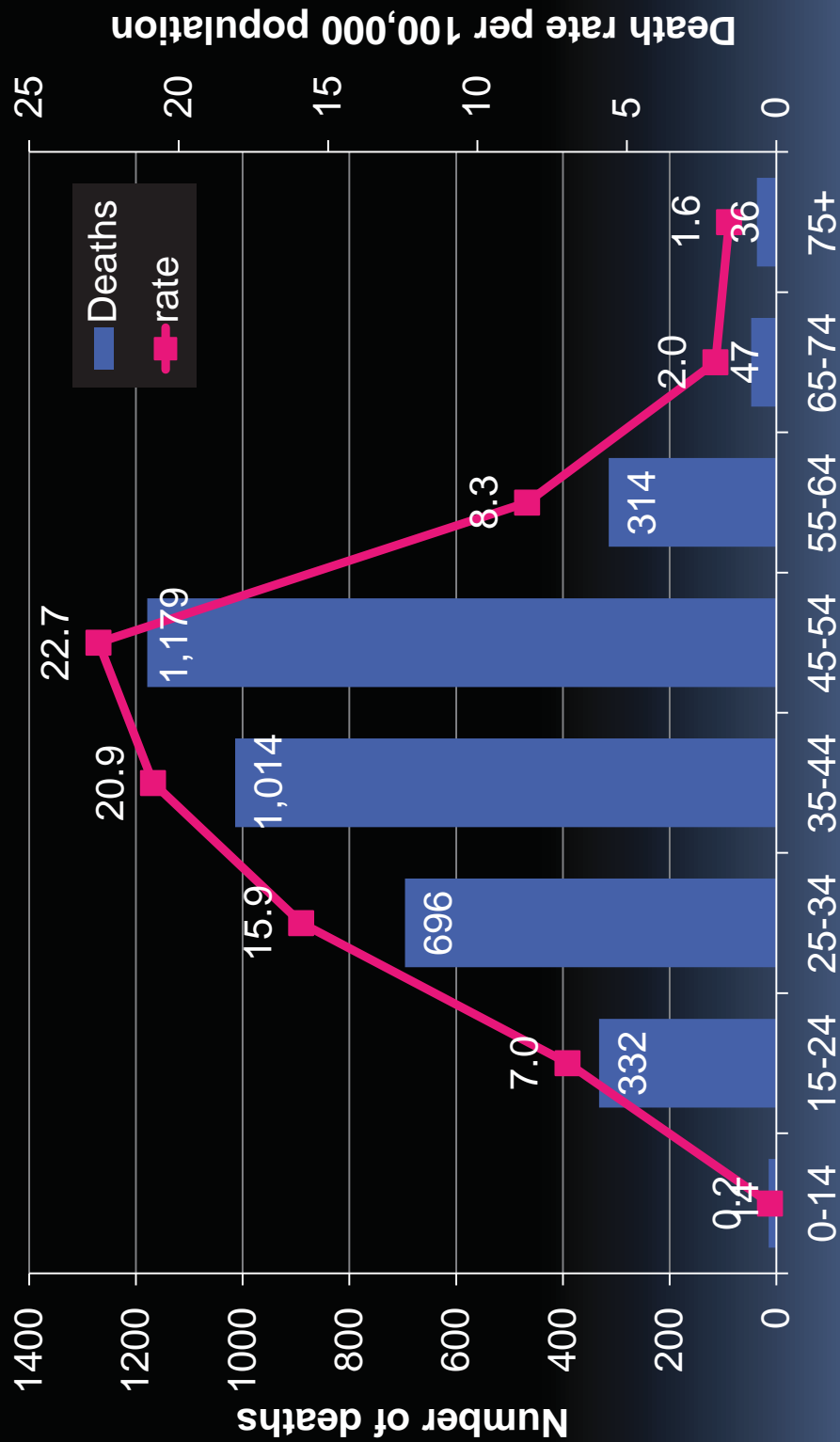


*Source: EpiCenter (Ohio ED chief complaint on admission data using “drug OD” as chief complaint)

WHO'S AT GREATEST RISK? *NOT WHO YOU MIGHT EXPECT*



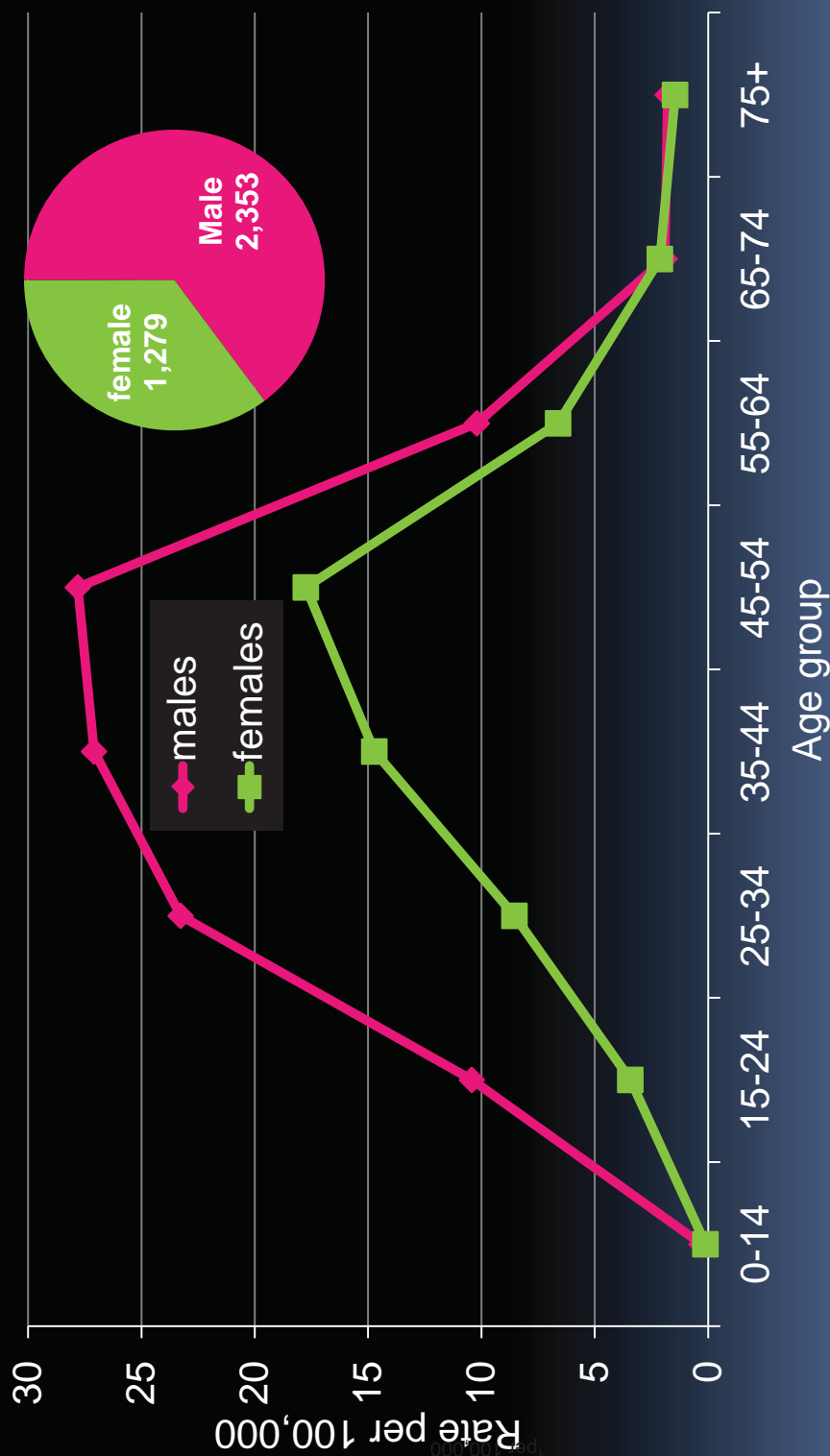
Number and average rate per 100,000 of fatal unintentional drug/medication-related poisonings by age group Ohio, 2005-07*



*Source: ODH Office of Vital Statistics

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Average unintentional drug/medication poisoning death rate per 100,000 by sex, age group, Ohio, 2005-07*



*Source: ODH Office of Vital Statistics

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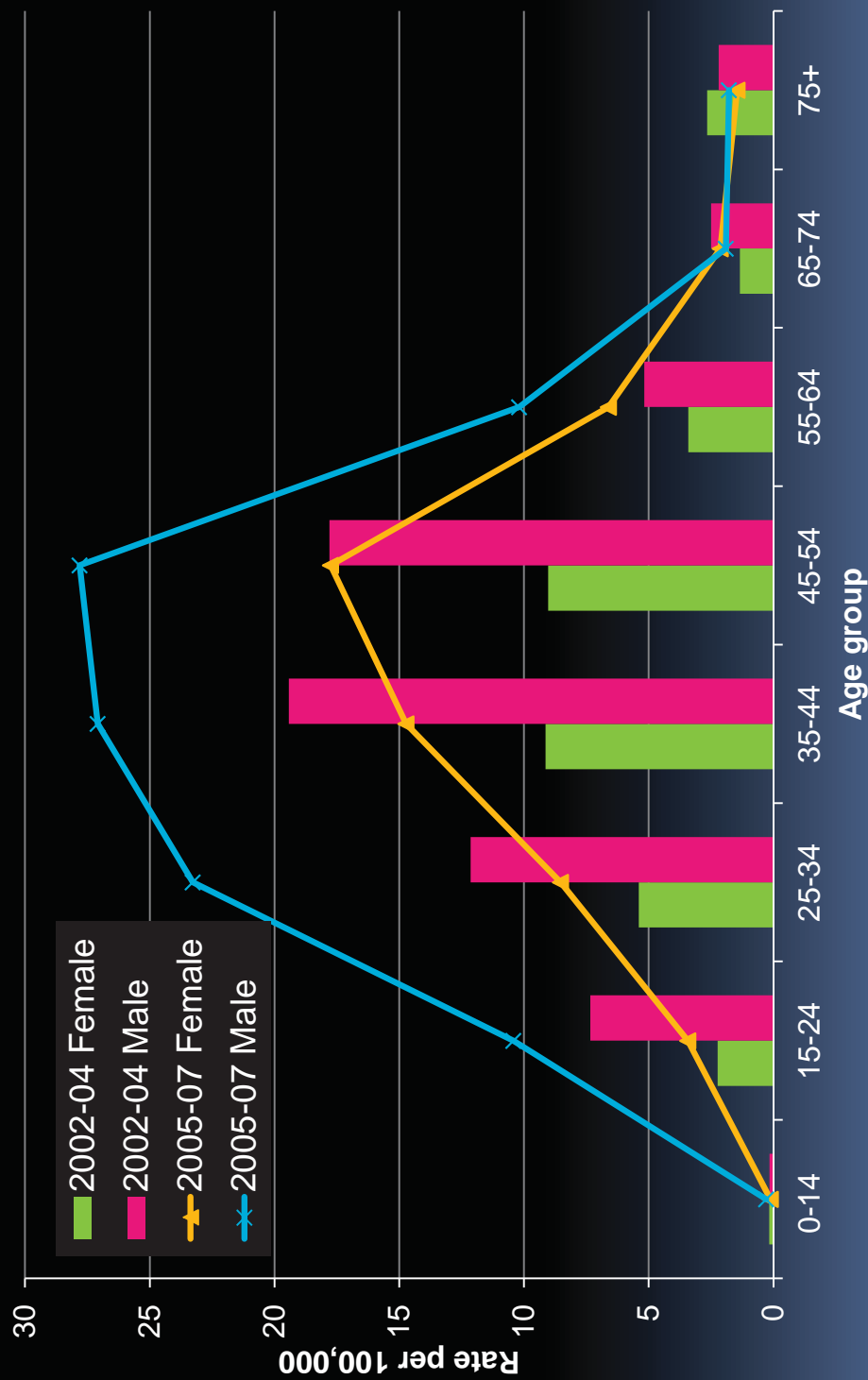
Average annual unintentional drug poisoning death rate per 100,000 population by age group Ohio, 2002-04 vs. 2005-07*



*Source: ODH Office of Vital Statistics

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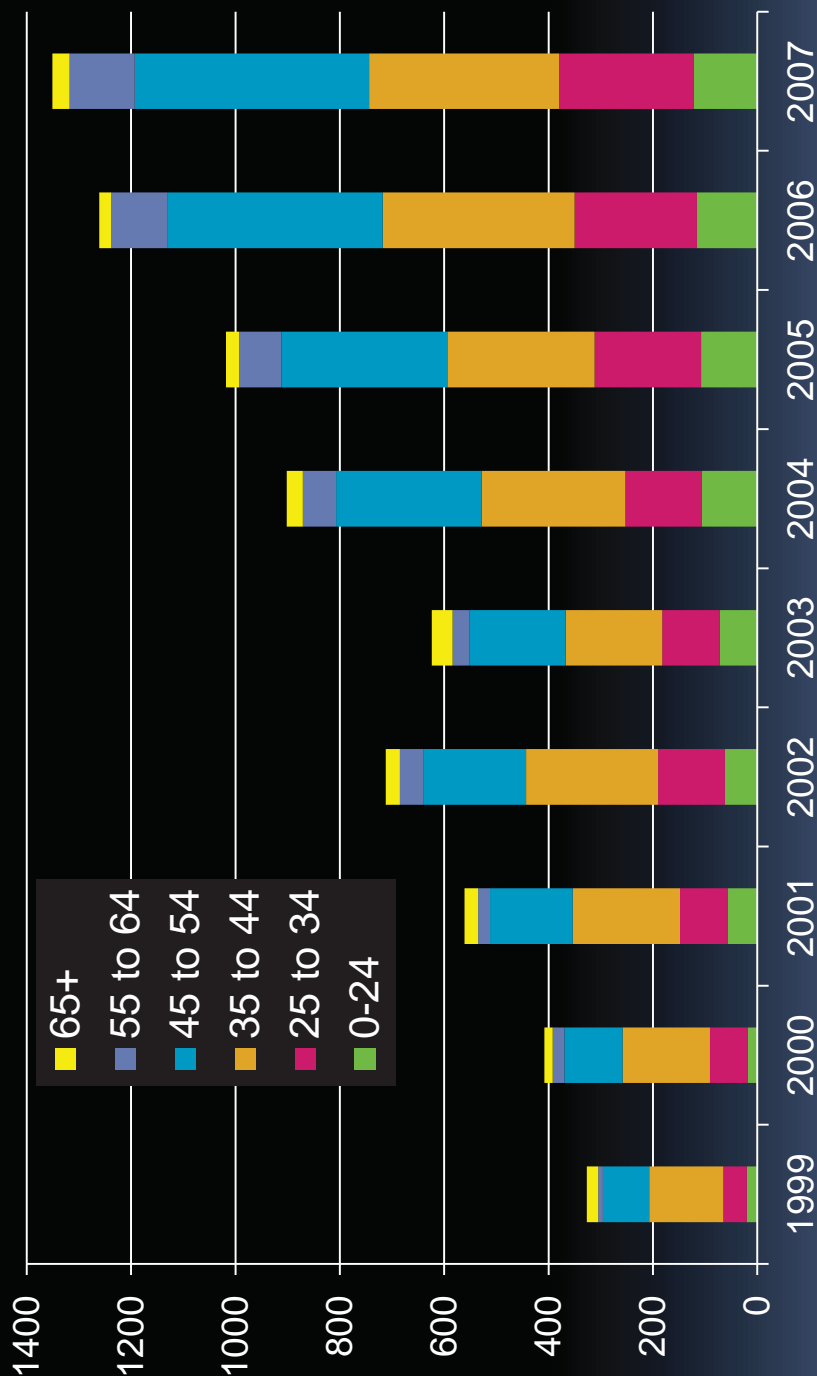
Average unintentional drug/medication poisoning death rate per 100,000 by sex, age group, Ohio, 2002-04 & 2005-07*



*Source: ODH Office of Vital Statistics

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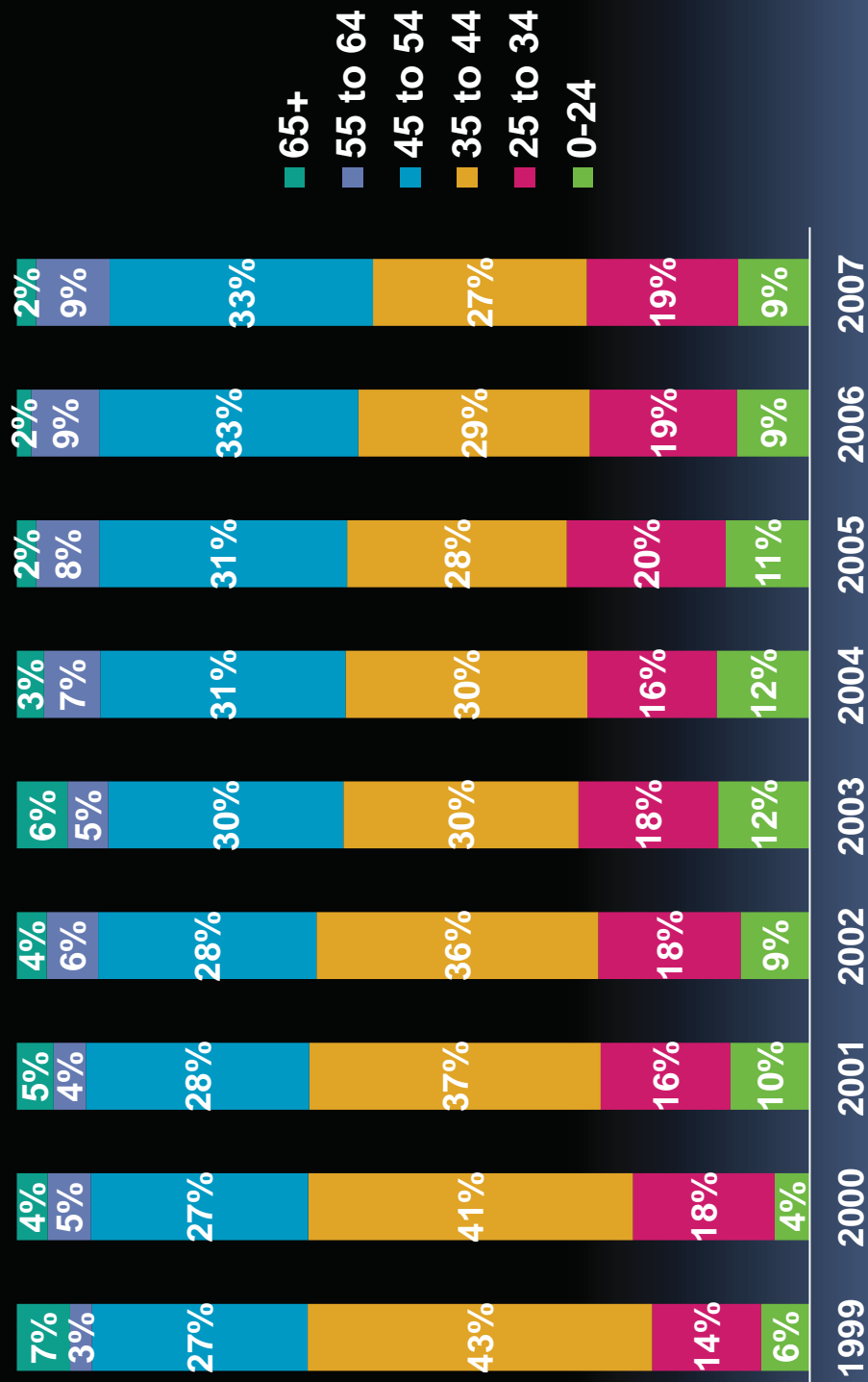
Number of unintentional drug poisoning deaths by age group, year, Ohio, 1999 - 2007*



*Source: ODH Office of Vital Statistics

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Proportional distribution of unintentional drug poisoning deaths by age group, year, Ohio, 1999 - 2007*



*Source: ODH Office of Vital Statistics

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What drugs are responsible for rise in Fatal overdoses?



Drugs of Potential Abuse

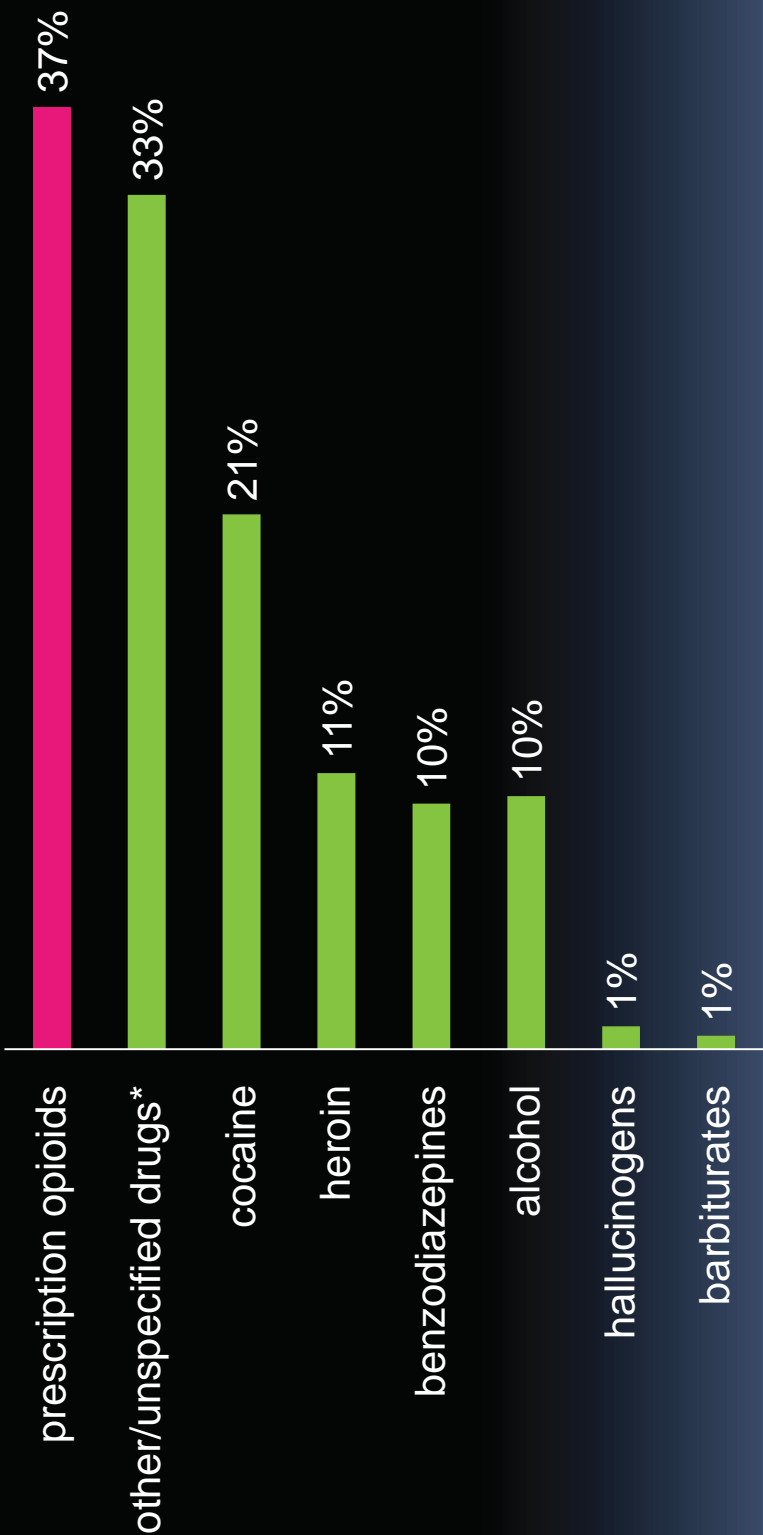
- **CNS Depressants:**
 - Opioid analgesics (narcotics*) - pain medications & heroin
 - Most associated with overdoses nationally & in Ohio –
 - Methadone
 - Fentanyl – often used as a patch (transdermal application)
 - Oxycodone (OxyContin®)
 - Hydrocodone (Vicodin®)
 - Benzodiazepines – anxiety/sleep - Diazepam (Valium®), alprazolam (Xanax®), etc.
 - Other Sedatives, sleeping medications (Ambien®)
 - Solvents/inhalants - Alcohol
- **Stimulants** – Cocaine, amphetamine, methamphetamine
- **Anti-depressants**

Source: SAMHSA²⁸



Proportion of all unintentional drug poisoning deaths with selected drug mentions, 2007^{1,2}

¹Source: ODH Office of Vital Statistics

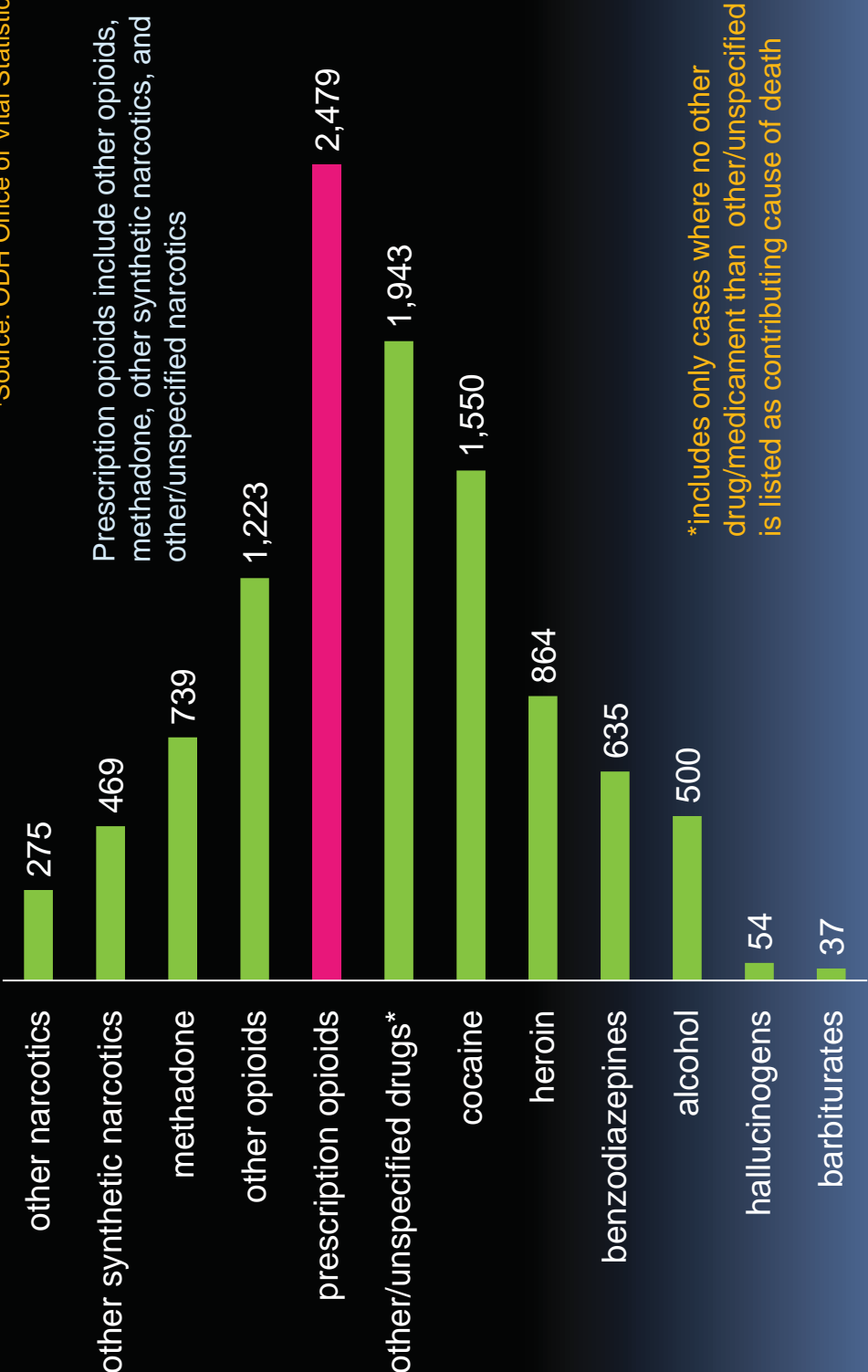


*includes only cases where no other drug than "other & unspecified" is listed as contributing cause of death

²Prescription opioids include other opioids, methadone, other synthetic narcotics, and other/unspecified narcotics

Number of specific drug mentions among unintentional fatal drug poisonings, Ohio, 2000-2007¹

¹Source: ODH Office of Vital Statistics

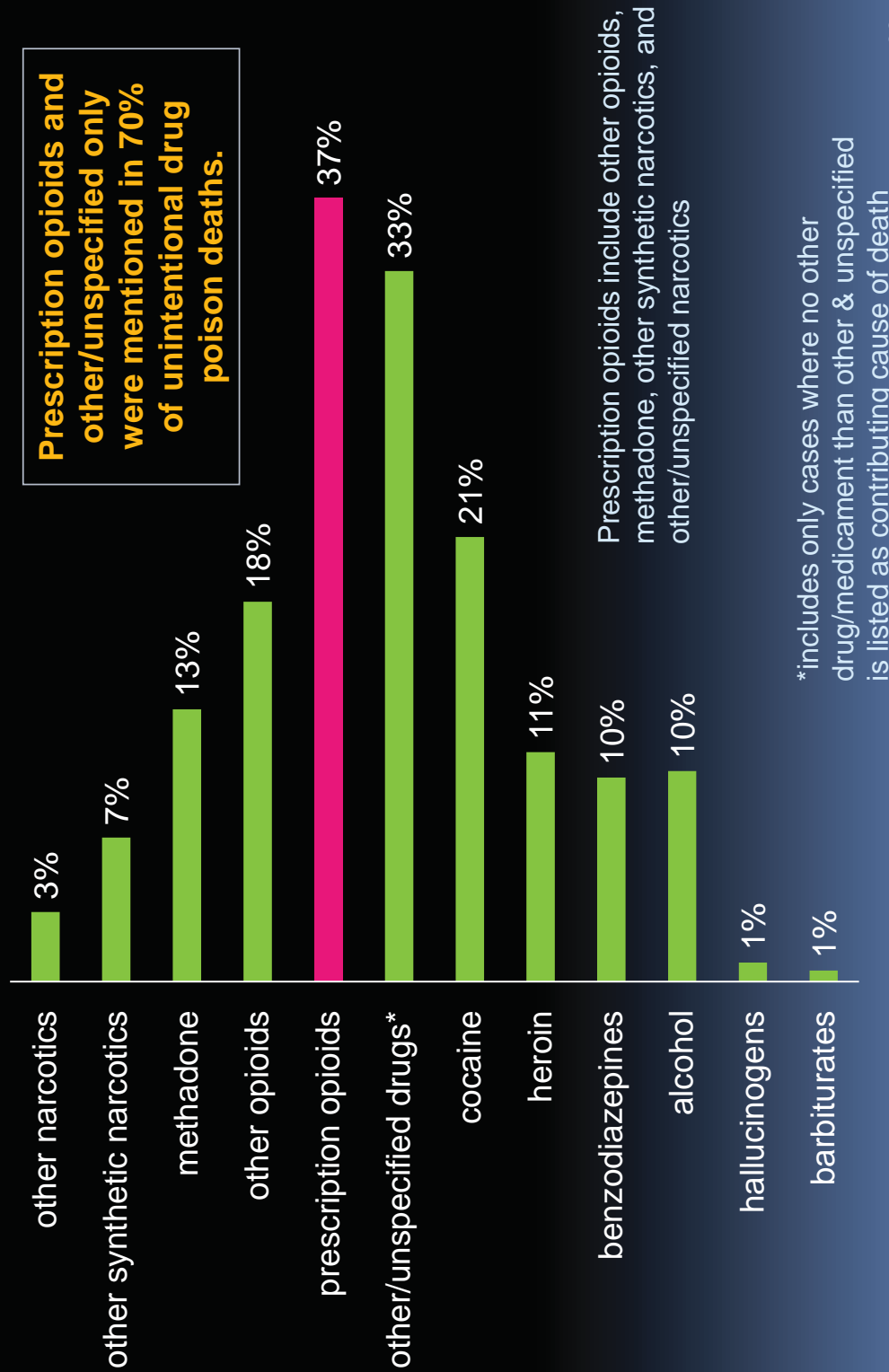


Prescription Opioids/Narcotics

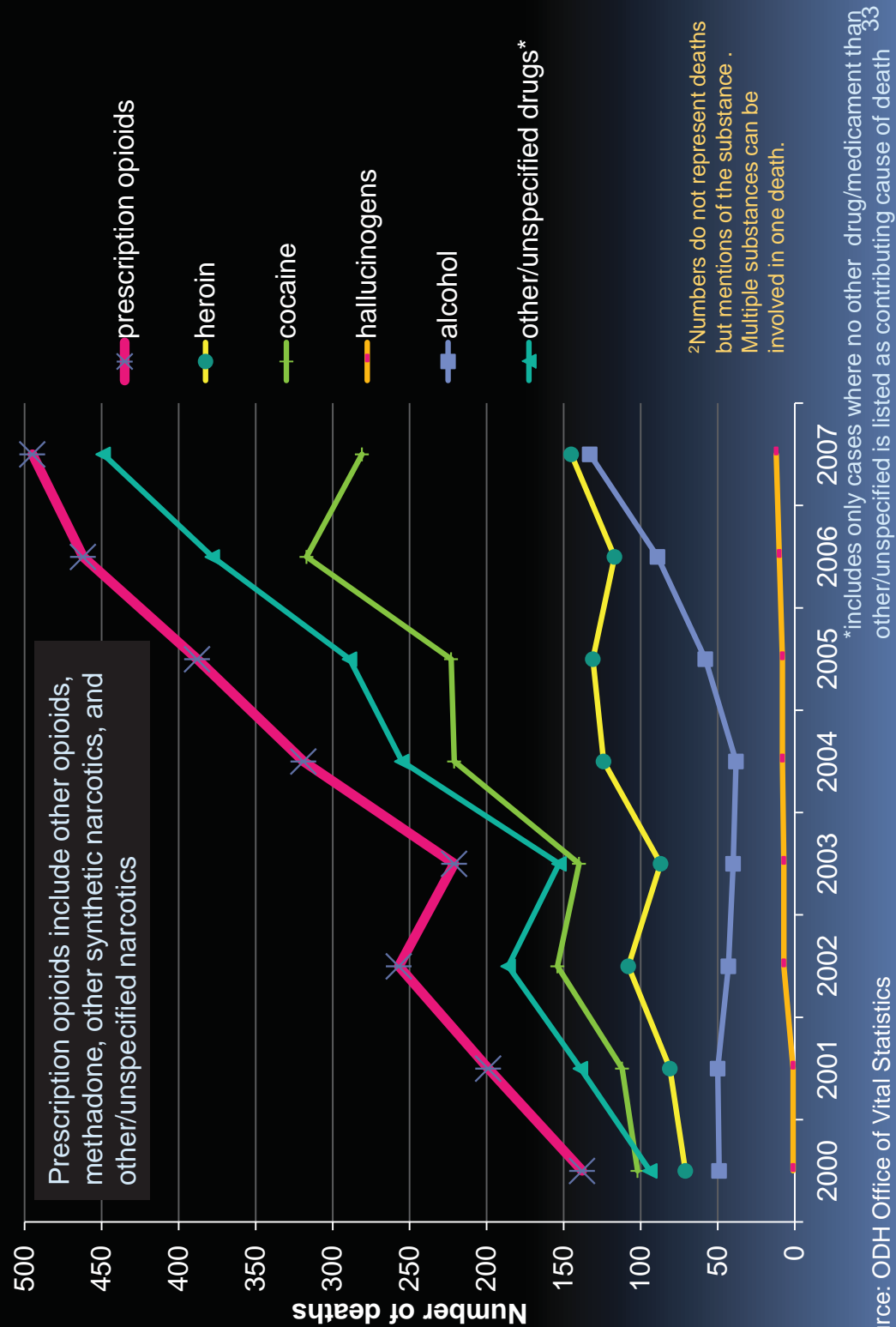
- Other Opioids (most commonly-prescribed opioids)
 - Hydrocodone (Vicodin®, Lortabs®)
 - Oxycodone (OxyContin®, Percocet®)
 - Morphine
 - Codeine
 - Hydromorphone (Dilaudid®)
- Methadone
- Other Synthetic Narcotics
 - Fentanyl (Duragesic®)
 - Propoxyphene
 - Meperidine (Demerol®)
 - Buprenorphine
- Other and Unspecified Narcotics

Proportion of all unintentional drug poisoning deaths in which drug is mentioned on death certificate, Ohio 2007¹

¹Source: ODH Office of Vital Statistics

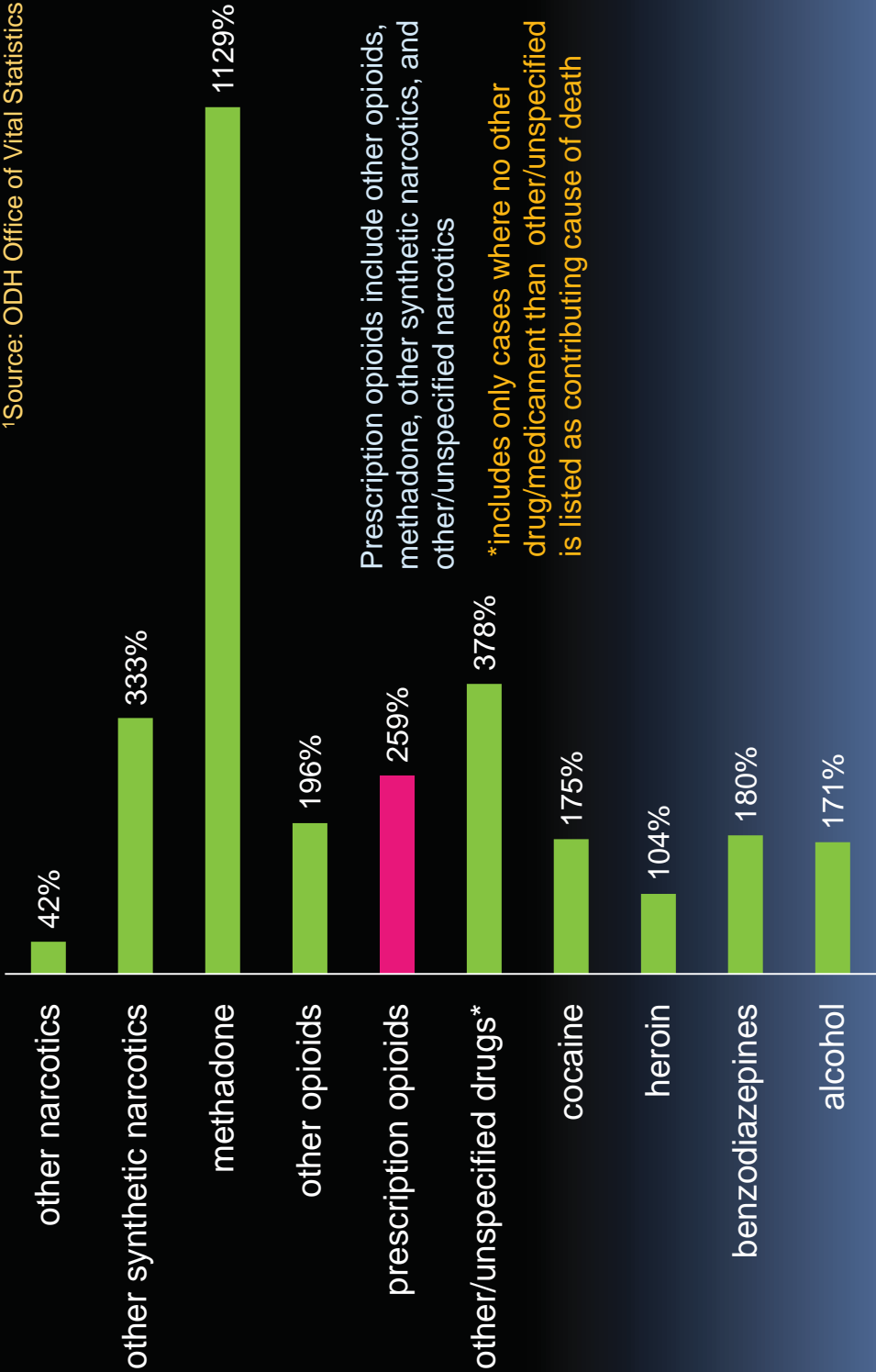


Number of specific drug mentions among unintentional fatal drug poisonings by year, Ohio, 2000-2007^{1,2}



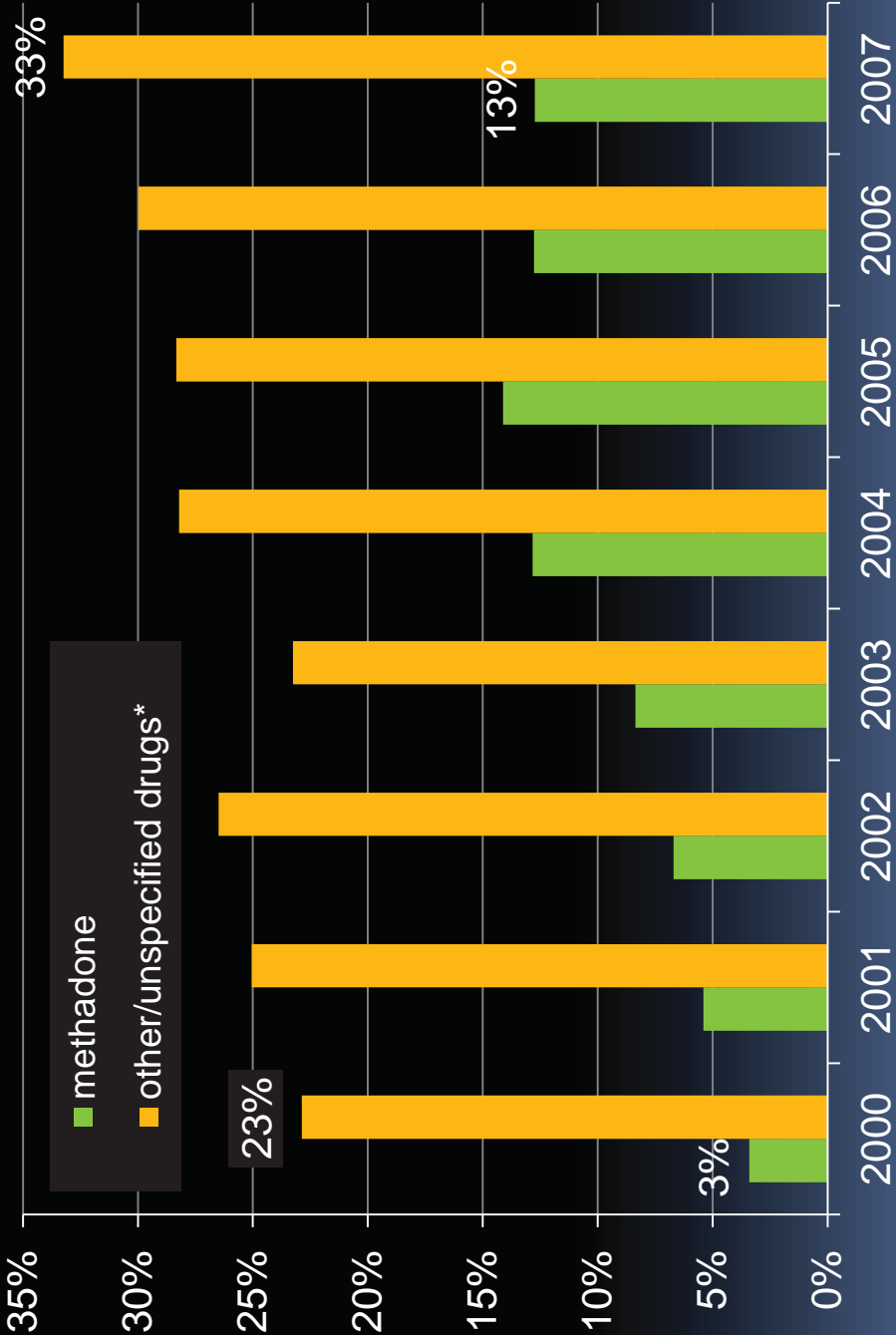
Percent change in number of unintentional drug poisoning deaths in which drug is mentioned, Ohio, from 2000 to 2007¹

¹Source: ODH Office of Vital Statistics



Proportion of all unintentional drug poisoning deaths in which drug is mentioned on death certificate, Ohio 2000-2007¹

¹Source: ODH Office of Vital Statistics



*includes only cases where no other drug/medicament than other/unspecified is listed as contributing cause of death

No. of unintentional drug poisoning deaths involving methadone and heroin by year, Ohio 2000-2007^{1,2}

Sources: ¹ODH Office of Vital Statistics,
² where specific drug involvement is known



Risk by Race, Sex for Specific Drugs

Unintentional poisoning death rates per 100,000 population involving opioids¹, by race, sex, year, 2000-2006, Ohio*

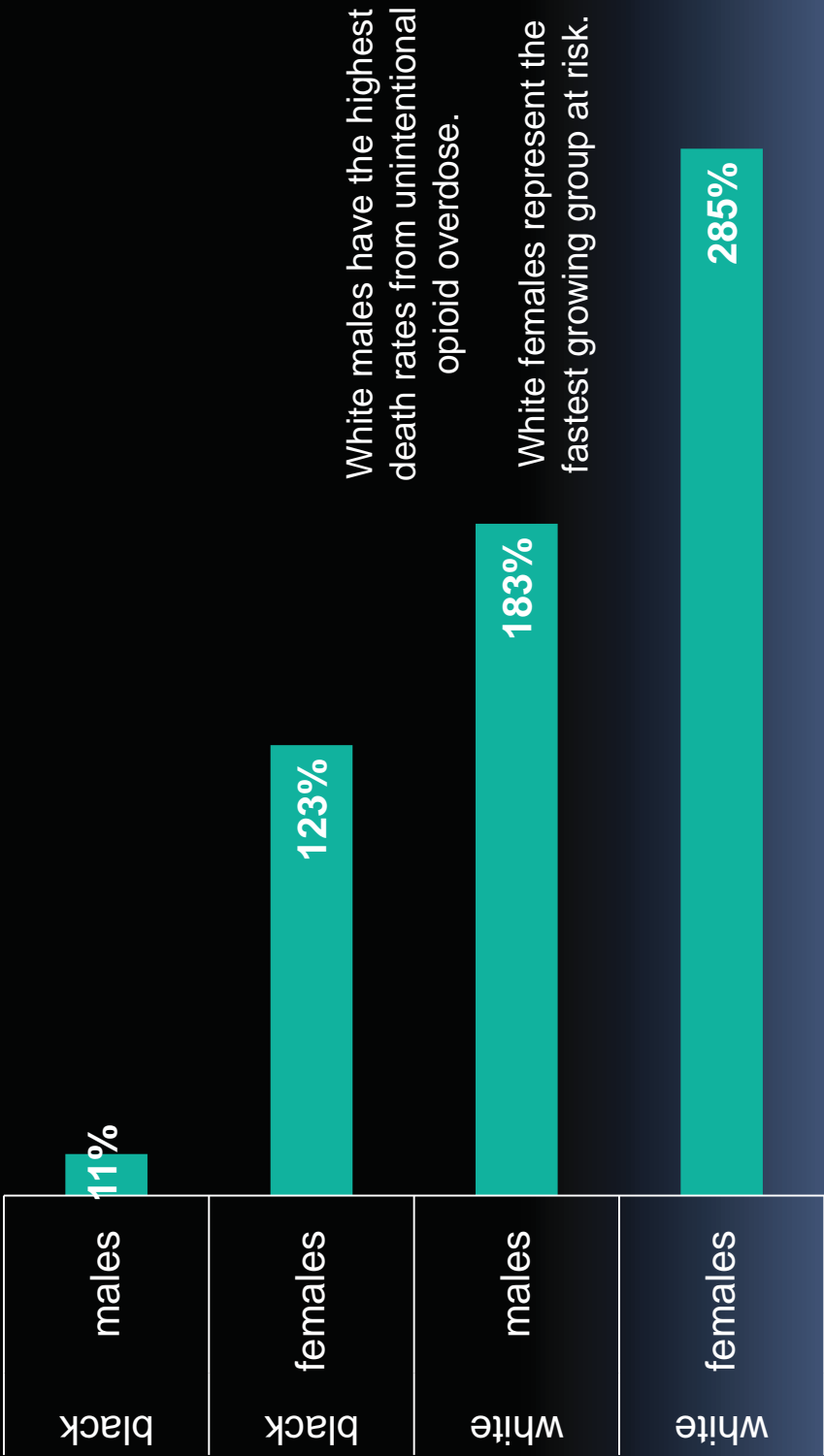


¹heroin, other opioids, methadone, other synthetic narcotics and other unspecified narcotics

*Source: ODH Office of Vital Statistics

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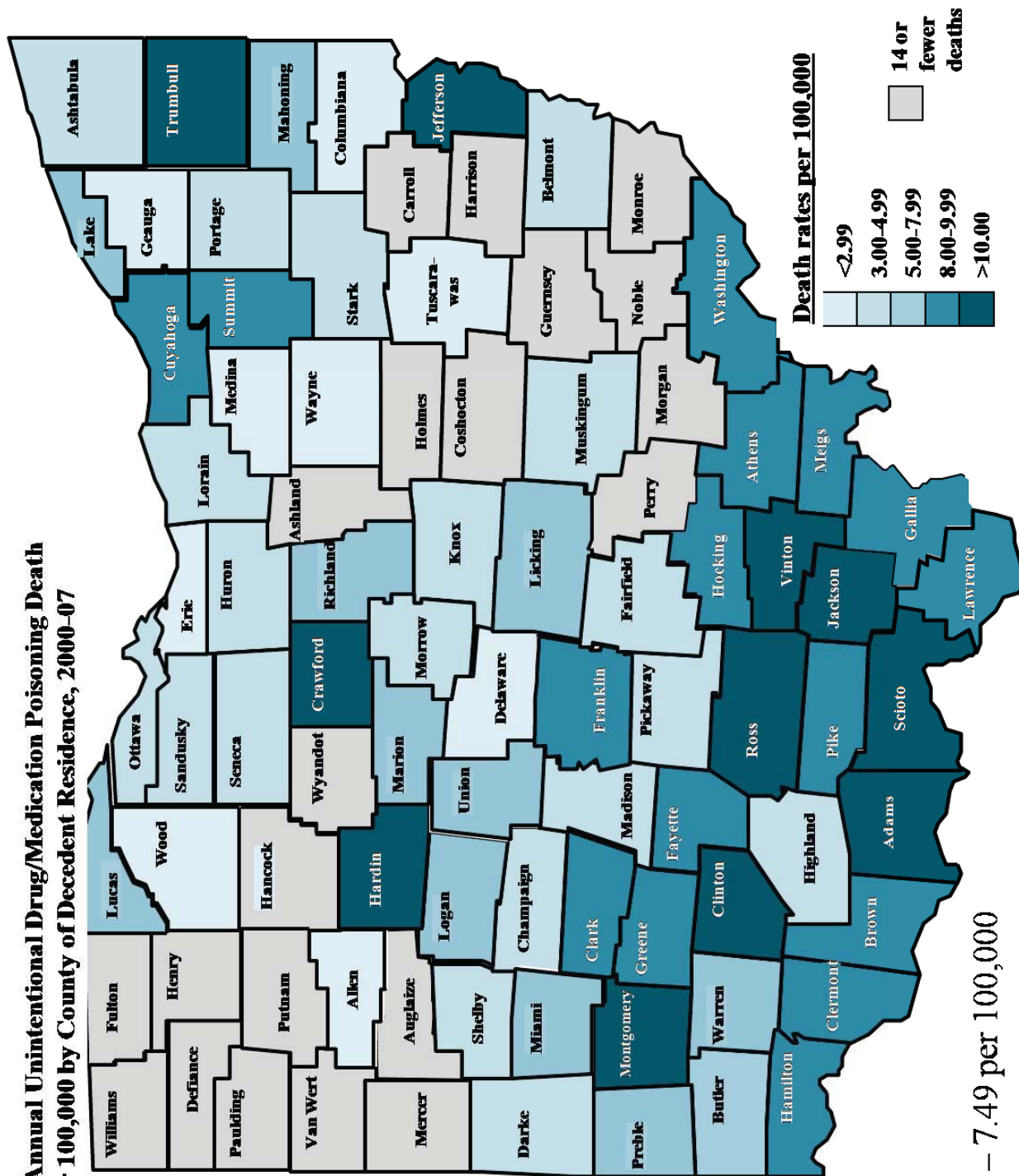
Percent change in unintentional poisoning death rates involving opioids¹, by race, sex, from 2000 to 2006, Ohio*



¹heroin, other opioids, methadone, other synthetic narcotics and other/unspecified narcotics

*Source: ODH Office of Vital Statistics

**Average Annual Unintentional Drug/Medication Poisoning Death
Rates per 100,000 by County of Decedent Residence, 2000-07**

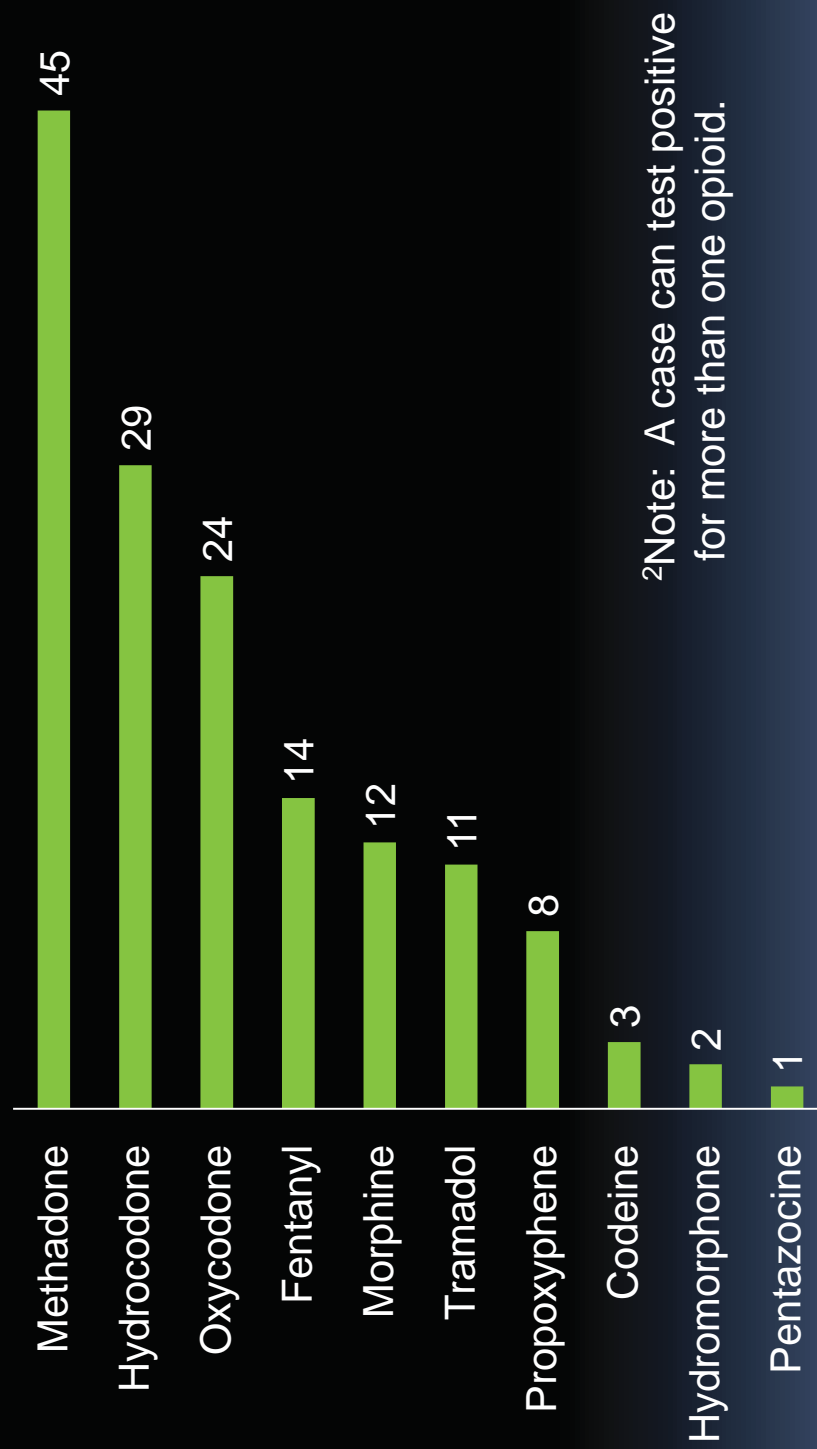


Ohio Counties with Highest Unintentional Drug Poisoning Death Rates, 2000-07*

	Total Unt. Drug Poisonings			Unt. Prescription Opioid and Other/Unspecified Only		
	No.	Avg. Annual Rate	Ratio of County to State Rate	No.	Avg. Annual Rate	Ratio of County to State Rate
MONTGOMERY	785	17.9	2.4	532	12.1	2.5
SCIOTO	100	16.4	2.2	87	14.1	2.9
VINTON	15	14.2	1.9	12	11.4	2.4
CLINTON	45	13.4	1.8	36	10.8	2.2
JACKSON	34	12.8	1.7	30	11.4	2.4
TRUMBULL	221	12.6	1.7	178	10.1	2.1
ROSS	74	12.4	1.7	63	10.6	2.2
JEFFERSON	66	11.6	1.6	54	9.5	2.0
CRAWFORD	40	11.0	1.5	36	9.9	2.0
HARDIN	28	11.0	1.5	24	9.5	2.0
ADAMS	24	10.7	1.4	20	9	1.9
Total Ohio	6,862	7.5		2,483	4.9	

*Source: Ohio Vital Statistics

Unintentional Fatal Overdose Cases Testing Positive for Prescription Opioids, N=96, Montgomery County, 2007^{1,2}



¹Source: OSAM: Surveillance of Drug Abuse Trends in Ohio, Jan 2008

Contributing factors: Pandora's Box



Opioid Prescribing Trends from late 1990's to present



Changes in Clinical Pain Management Prescribing Practices in 1997*

- Change occurred in 1997 as a result of pain management advocates.
- Pain relief laws were pushed down to states
 - *Ohio Revised Code 4731.21 Drug Treatment of Intractable Pain*
- Resulted in availability of potent pain medications in the community setting that had been previously restricted to hospital use for pain (e.g., end-stage cancer) patients.

**Intractable Pain Relief Act*

Distribution of scheduled opioids¹ in grams per 100,000 population by drug, Ohio, 1997 to 2007²

²Source: DOJ, DEA, ARCOS reports



¹In oral morphine equivalents using the following assumptions: (1) All drugs other than fentanyl are taken orally; fentanyl is applied transdermally. 2) These doses are approximately equianalgesic: morphine: 30 mg; codeine 200 mg; oxycodone and hydrocodone: 30 mg; hydromorphone; 7.5 mg; methadone: 4 mg; fentanyl: 0.4 mg; meperidine: 300 mg.

Figure 4. Unintentional fatal drug poisoning rates¹ and distribution rates of prescription opioids^{2,3} in grams per 100,000 population⁴ by year, Ohio, 1997-2007 (1999-2007 for opioids)

Sources: ¹ODH Office of Vital Statistics, ²DOJ-DEA ARCOS



³Codeine, buprenorphine, oxycodone, hydromorphone, hydrocodone, meperidine, methadone, Morphine, fentanyl base (transdermal) in opioid equivalents (morphine 30mg)

No. of deaths¹ due to methadone overdose and cumulative consumption in total grams of methadone², by year, Ohio 2000-2007

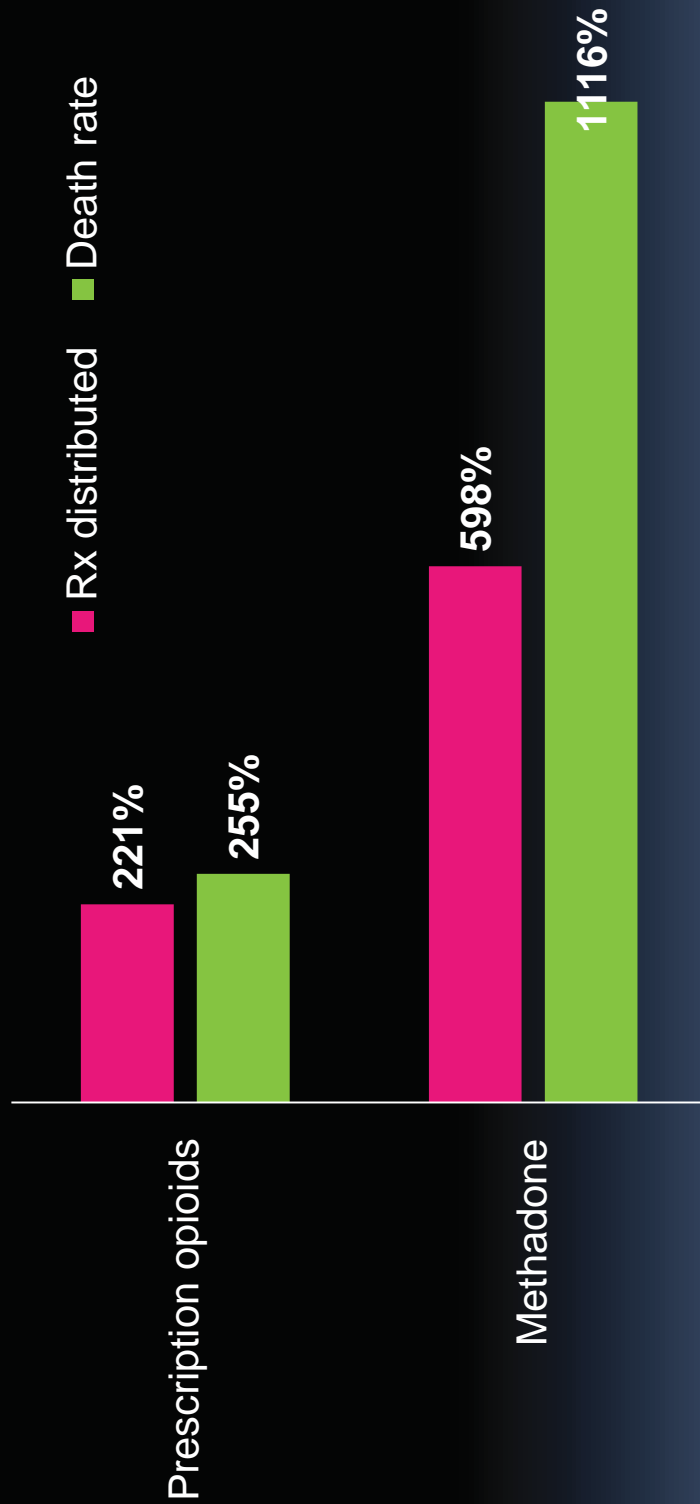
Sources: ¹ODH Office of Vital Statistics, ²DOJ-DEA ARCOS



Percent change in prescription opioid drug distribution^{1,2} in grams per 100,000 vs. unintentional drug poisoning death rate^{2,3} for methadone and all prescription opioids⁴ from 2000 to 2007, Ohio

²per 100,000

Source: ¹DOJ DEA ARCOS, ²ODH Office of Vital Statistics

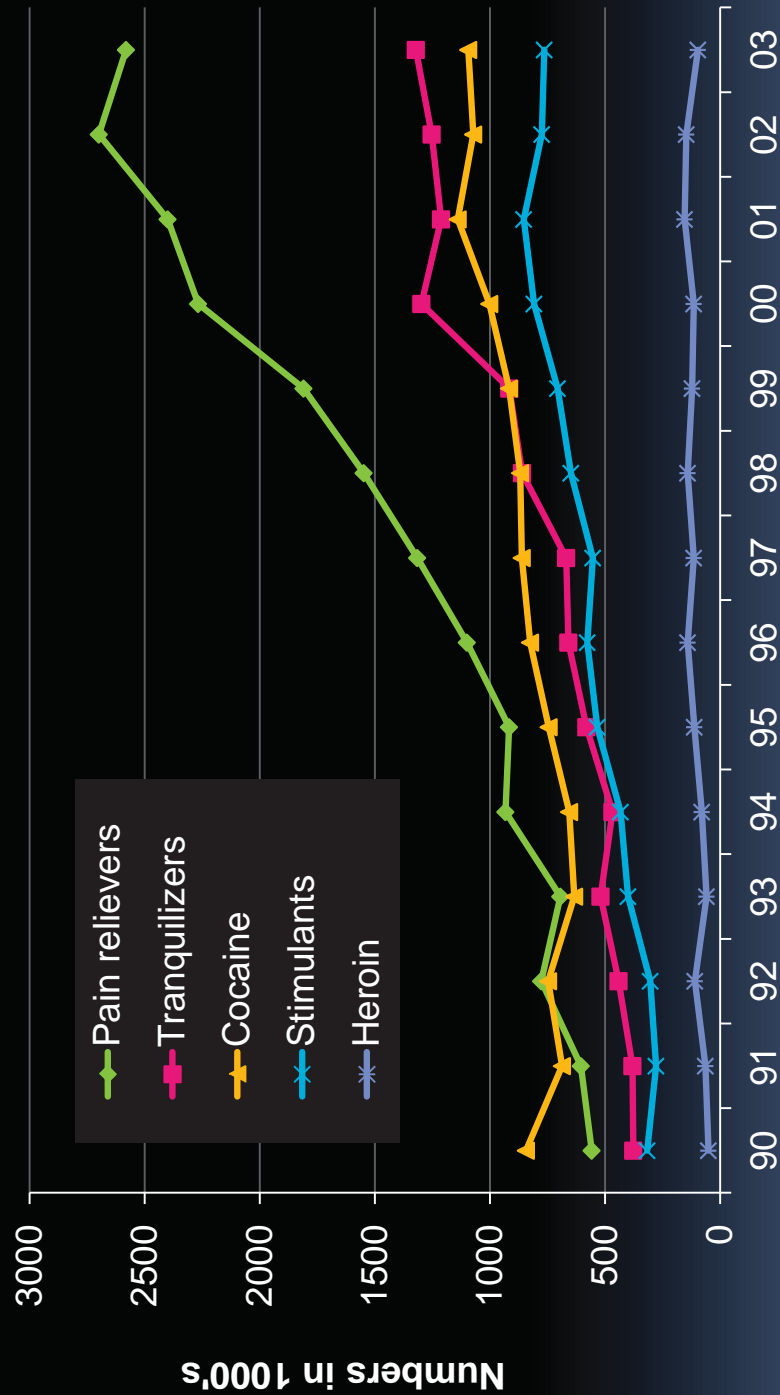


⁴Calculation of oral morphine equivalents used the following assumptions: (1) All drugs other than fentanyl are taken orally; fentanyl is applied transdermally. 2) These doses are approximately equianalgesic: morphine: 30 mg; codeine 200 mg; oxycodone and hydrocodone: 30 mg; hydromorphone; 7.5 mg; methadone: 4 mg; fentanyl: 0.4 mg; meperidine: 300 mg. 49

More Consequences...



Estimated numbers of new nonmedical users in past year by type of drug, US, 1990-2003¹



¹National Survey on Drug Use and Health (NSDUH) 2002-2004

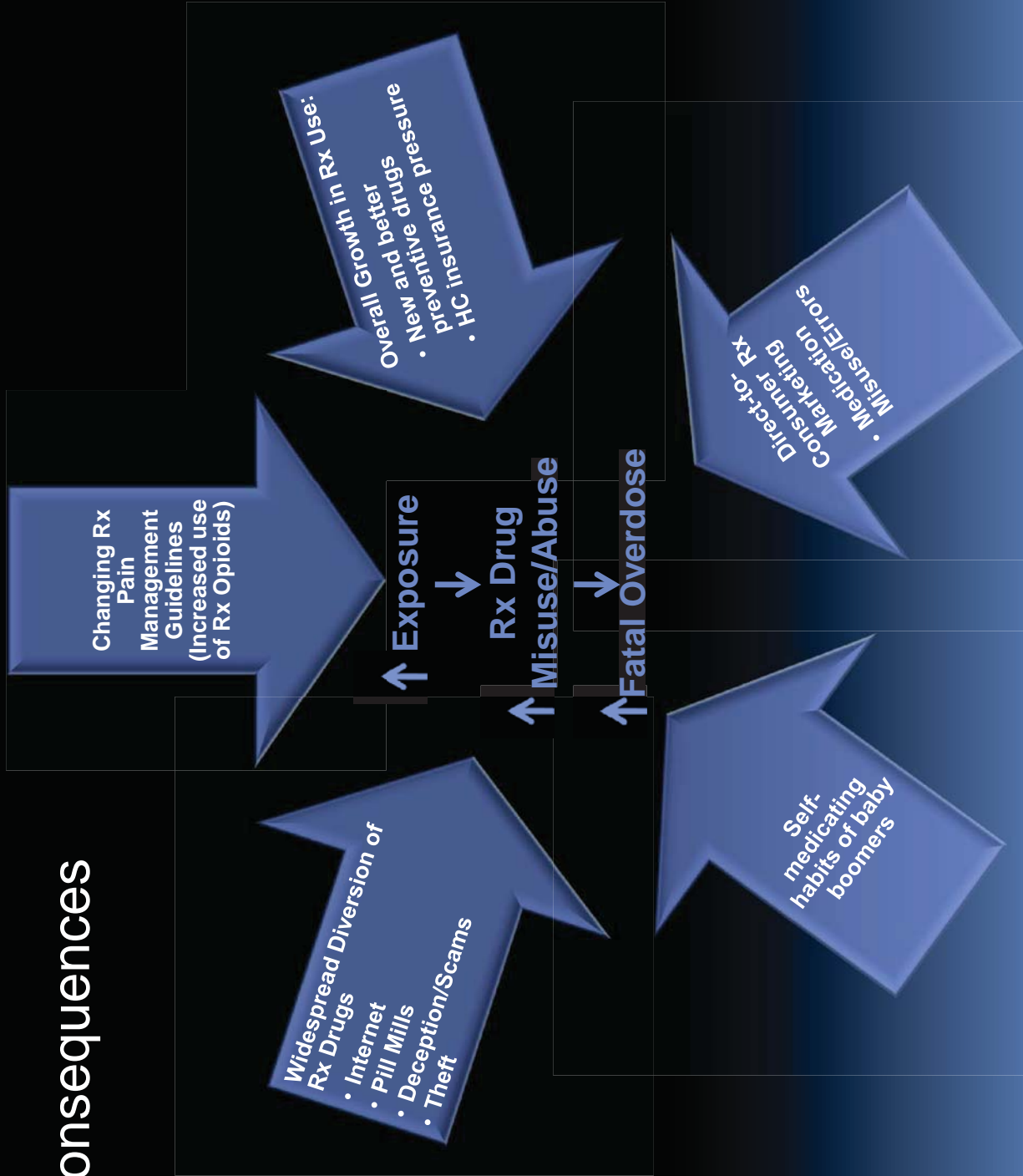
Number of admissions for substance abuse treatment for prescription opioids, Ohio, 1993-2006*



*SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 10.3.06.

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Consequences



Costs of the problem

Estimated average annual costs of unintentional drug overdose in Ohio ¹		
Type of Costs	Fatal Costs ²	Non-fatal, hospital admitted costs ³
Medical	\$4,953,715	\$19,070,550
Work loss	\$1,210,061,576	\$5,270,670
Quality-of-Life loss	\$2,240,256,949	\$7,613,550
Total	\$3.5 Billion	\$31.9 Million

¹Source: Children's Safety Network Economics & Data Analysis Resource Center, at Pacific Institute for Research and Evaluation, 2005; ²Year 2004 Dollars, Based on 2004-2007 average Ohio incidence ³Year 2005 Dollars, Based on Year 2003 Ohio incidence

Costs of Opioid Abuse

- Studies:
 - National evaluation of insured populations found opioid abusers had mean annual direct health care costs **8X higher than non-abusers**.
 - Total costs for opioid abuse was \$9.5 billion in 2005 \$.
 - Costs expected to be significantly higher in 2009 due to increasing overdose rates.
 - Source: ASTHO (*Association of State and Territorial Health Officials*). Prescription Drug Overdose: State Health Agencies Respond, 2008

Risk Groups for Overdose: What do we know?

Study of Rx drug overdose deaths in WV using ME, PDMP and substance abuse treatment data¹

- Recent study suggests that fatal overdose problem is mixed.
 - 93% of Rx drug deaths involved opioids
 - **Of these, only 44% had prescriptions for these drugs**
 - 79% had used multiple substances (mean of 2) contributing to their fatal overdose.
 - Other findings:
 - 21% obtained drugs from “Dr. Shopping”
 - 63% obtained drugs through “Diversion” (no prescription)
 - Differences found by gender and age group
- 95% had indicators of substance abuse**

¹Source: Hall et al. *Patterns of abuse among unintentional pharmaceutical overdose fatalities*. JAMA 2008;

Study of overdose deaths in WV using ME, PDMP and substance abuse treatment data¹

- Among all deaths:
 - Opioids were involved in 93%
 - Psychotherapeutic drugs (benzodiazepines/anti-depressants) were involved in 49%.
- Of the 61 (21%) single-drug deaths, only 1 was due to a psychotherapeutic drug (amitryptiline) - fatal overdose is less likely with a single psychotherapeutic drug than with a single opioid.
- Methadone was responsible for more single-drug deaths and was involved in far more deaths than any other drug.

¹Source: Hall et al. *Patterns of abuse among unintentional pharmaceutical overdose fatalities*. JAMA 2008

Risk Groups for Opioid Overdose*

1. **Pain patients:**
 - Taking high doses of medication.
 - Taking medications incorrectly.
2. **Nonmedical pain medication users** and those with a history of substance abuse
 - *WV study: 95% had indicators of substance abuse*
3. **Persons who have already experienced a drug overdose.**
4. **Persons taking multiple medications, especially multiple CNS depressants, simultaneously**
 - *WV study: 79% used multiple substances that contributed to OD*

*Sanford K. *Findings and Recommendations of the Task Force to Prevent Deaths from Unintentional Drug Overdoses in North Carolina, 2003.*

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Risk Groups for Opioid Overdose¹

5. **Persons with chronic health problems such as:**
 - COPD, emphysema, respiratory illness, heart problems, renal dysfunction or hepatic disease.
6. **Using after a period of abstinence (e.g., after SA treatment or *recently released prisoner population*)**
7. **Patients newly starting methadone for pain control and patients who have switched to methadone after treatment with other strong opioid pain relievers**

¹Sanford K. *Findings and Recommendations of the Task Force to Prevent Deaths from Unintentional Drug Overdoses in North Carolina, 2003.*

Other Risk Factors

- **Low income**
 - Medicaid recipients are more likely to be prescribed narcotics and to die from prescription drug overdoses¹
 - Lower educational attainment and increased poverty in decedent's county of residence were both associated with greater death rates in a dose-response fashion.²
- **Lack of substance abuse treatment**
- **Gender**
 - Males- Most deaths³
 - Females – Fastest growing group
 - Drug/medication poisoning death rates for females increased 133% from 1999 to 2005 in the U.S, versus 75% for males.⁴

Sources: ¹ASTHO (Association of State and Territorial Health Officials) Report: *Prescription Drug Overdose: State Health Agencies Respond* http://www.astho.org/pubs/RXReport_Web.pdf

²Hall et al. *Patterns of abuse among unintentional pharmaceutical overdose fatalities*. JAMA 2008.

³Ohio Vital Statistics ⁴CDC WONDER

Summary and Response

What we know so far..

- Regulated prescription drugs taken mostly by mouth can produce a larger overdose epidemic than illicit drugs of uncertain strength taken intravenously.
- Ohio's rates are greater than US; particularly in southern OH
- Increased access to opioid medications from late '90's on
- White males at highest risk for opioid OD but white females are the fastest growing group.
- Males aged 45-54 have the highest death rates of all.

What we know so far..

- Most deaths are associated with opioids/narcotics.
- Most rapid increases associated with synthetic opioids (e.g., Methadone)
- Multiple substance use (polypharmacy) is a factor in many of these deaths, complicating issue. Polypharmacy is a risk factor for fatal overdose.
- Single drug overdoses more likely to be opioids (especially those with long half-life or extended release)
- Diversion of RXs, Dr. shopping & substance abuse play a large role.
- We need additional information about the substances responsible and how they are being used.

What we don't know...

Proportion of all unintentional drug poisoning deaths in which drug is mentioned on death certificate, Ohio 2007¹

¹Source: ODH Office of Vital Statistics



*includes only cases where no other drug/medicament than other & unspecified is listed as contributing cause of death

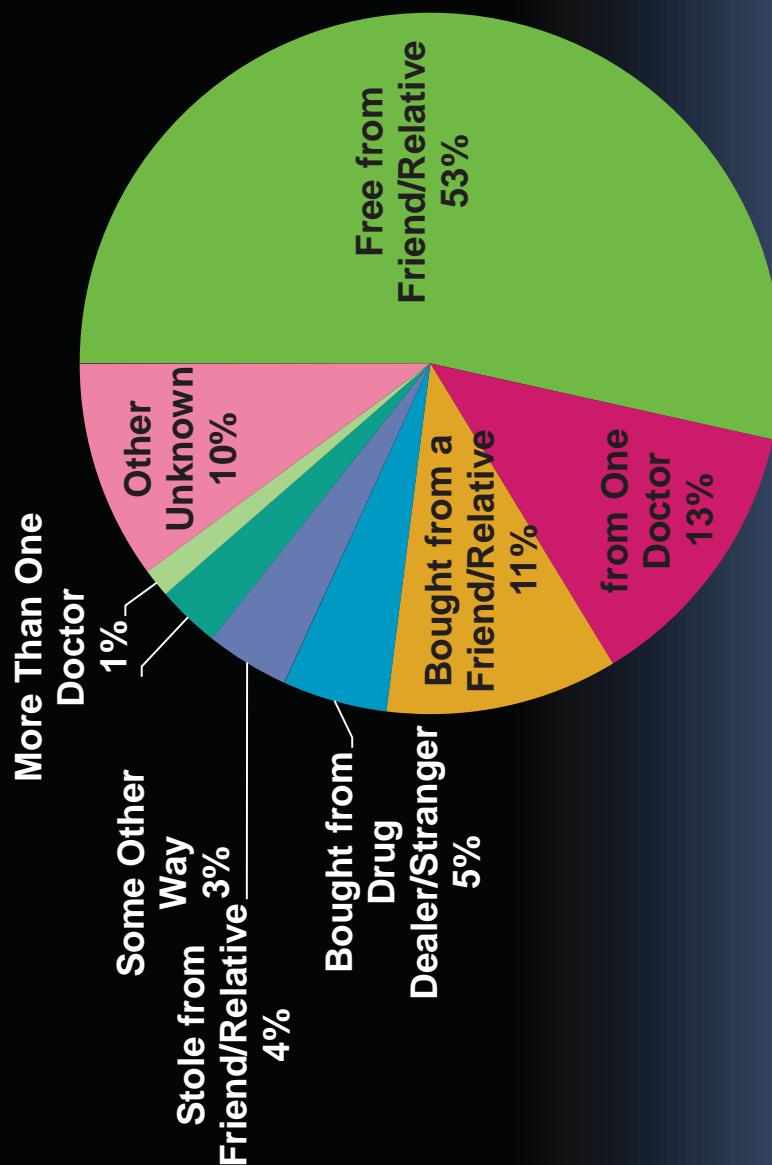
Prescription opioids include other opioids, methadone, other synthetic narcotics, and other/unspecified narcotics

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What we don't know...

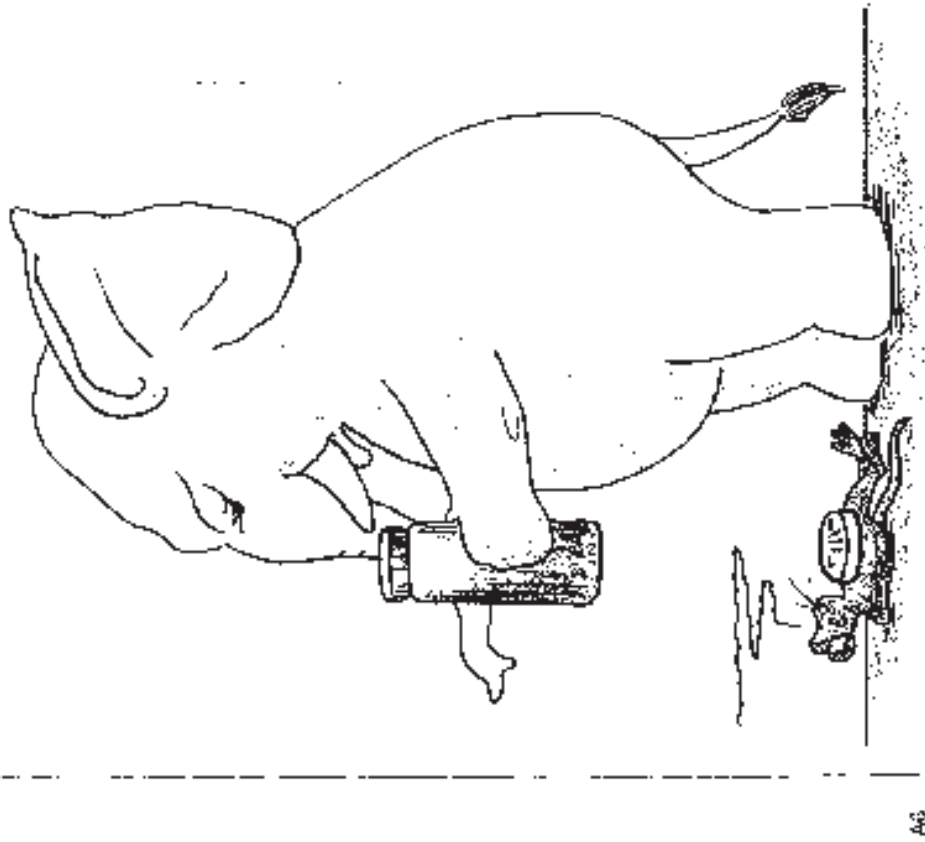
- Which drugs are involved in multiple drug deaths.
- Where people who are dying are getting their drugs in Ohio – expect similar results to WV study?
- What the most effective solutions are for the problem – many strategies are being tested – more evaluation is needed.

Access: Percentages of Reported Method** of Obtaining Prescription Pain Relievers for Their Most Recent Nonmedical Use in the Past Year among Persons Aged 18 to 25: 2005 NSDUH



Substance Abuse and Mental Health Services Administration. (2006). Results from the 2005 National Survey on Drug Use and Health: National Findings. (Office of Applied Studies, NSDUH Series H-30, DHHS Publication No. SMA 06-4194). Rockville, MD. www.oas.samhsa.gov/2k5/nsduh/2k5nsduh/2k5Results.pdf

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SHARING YOUR PRESCRIPTION MEDICINE
WITH OTHERS CAN DO MUCH MORE
HARM THAN GOOD!

A-6

Source: Wishing Well-ness Card Company
©1989 James A Terhune

For More Information...

- Hall AJ, Logan JE, Toblin RL, et al. *Patterns of abuse among unintentional pharmaceutical overdose fatalities*. JAMA 2008;300(22):2613-20. <http://jama.ama-assn.org/cgi/content/full/300/22/2613>
- ASTHO (Association of State and Territorial Health Officials) Report: *Prescription Drug Overdose: State Health Agencies Respond* http://www.astho.org/pubs/RXReport_Web.pdf
- *Drug Abuse in America: Prescription Drug Diversion*. Trend Alert: Critical Information for State Decision-makers. The Council of State Governments. April 2004 <http://www.csg.org/pubs/Documents/TA0404DrugDiversion.pdf>
- Subscribe for OSAM-O-Grams – Wright State University & University of Akron <http://www.med.wright.edu/citar/osam.html>
- ODH Factsheet <http://healthyohiprogram.org/ASSETS/45E86204619D4F0B813F82D77D5FA500/Poison.pdf>

State Health Agencies Response

- See the early steps that nine states took in a CDC/NCIPC – ASTHO joint report:
 - *Prescription Drug Overdose: State Health Agencies Respond*
- Available at http://www.astho.org/?template=innovative_programs.html

National Meetings and Presentations

- **State Strategies for Preventing Prescription Drug Overdoses**

January 13-14, 2008, Atlanta, Georgia
Sponsored by the CDC's NCIPC

<http://www.stipda.org/displaycommon.cfm?an=1&subarticlenbr=204>

- **Promising Legal Responses to Epidemic of Prescription Drug Overdoses in US**

December 2-3, 2008, Atlanta, Georgia
Sponsored by the CDC's NCIPC and the Public Health Law Program of the CDC

<http://www.stipda.org/displaycommon.cfm?an=1&subarticlenbr=203>

Prescription Drug Overdose: State Health Agencies Respond: State Strategies

- Prescription Drug Monitoring Programs (PDMPs)- Ohio Automatic Rx Reporting System (OARRS) – Ohio Board of Pharmacy
- PDMP Data Sharing
- Single copy, Non-serialized paper prescription forms
- E-prescribing
- Doctor Shopping Statutes
- Return of Unused Pharmaceuticals
- Pain Clinic Laws
- Drug Courts
- Patient Review & Coordination (PRC) or “Lock-in” Medicaid Programs
- Clinical Guidelines for Chronic and/or Acute Pain Management
- ED Programs to Reduce Frequent Visitors
- Naloxone Distribution and Harm Reduction

Ohio Department of Health – Violence and Injury Prevention Program

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